

# Data Tables

<http://www.epa.gov/oar/aqtrnd99/appenda.pdf>

**Table A-1a.** National Air Quality Trends Statistics for Criteria Pollutants, 1980–1989

Statistic	# of Sites	Units	Percentile	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Carbon Monoxide</b>													
2nd Max. 8-hr.	304	ppm	95th	15.6	14.6	14.1	14.1	13.6	12.4	12.1	11.6	11.4	11.1
2nd Max. 8-hr.	304	ppm	90th	13.9	12.6	12.7	12.4	11.9	11.0	10.7	9.6	10.0	9.6
2nd Max. 8-hr.	304	ppm	75th	10.7	10.6	10.0	9.8	9.9	8.9	8.9	8.3	7.8	7.9
2nd Max. 8-hr.	304	ppm	50th	7.9	7.7	7.5	7.3	7.3	6.5	6.8	6.3	6.0	6.0
2nd Max. 8-hr.	304	ppm	25th	5.7	6.0	5.6	5.4	5.2	4.9	5.1	4.7	4.5	4.5
2nd Max. 8-hr.	304	ppm	10th	4.4	4.2	4.4	3.9	4.2	3.7	3.9	3.7	3.5	3.6
2nd Max. 8-hr.	304	ppm	5th	3.8	3.7	3.6	3.4	3.5	3.4	3.3	3.3	3.1	2.9
2nd Max. 8-hr.	304	ppm	Arith. Mean	8.6	8.4	8.1	7.9	7.8	7.1	7.2	6.7	6.5	6.4
<b>Lead</b>													
Max. Qtr. AM	216	µg/m³	95th	1.63	1.28	1.12	0.87	0.74	0.63	0.36	0.30	0.22	0.21
Max. Qtr. AM	216	µg/m³	90th	1.18	1.00	0.93	0.68	0.63	0.45	0.27	0.20	0.18	0.14
Max. Qtr. AM	216	µg/m³	75th	0.70	0.58	0.63	0.50	0.45	0.30	0.17	0.13	0.11	0.10
Max. Qtr. AM	216	µg/m³	50th	0.50	0.40	0.42	0.36	0.33	0.19	0.12	0.09	0.07	0.06
Max. Qtr. AM	216	µg/m³	25th	0.35	0.29	0.28	0.24	0.22	0.14	0.08	0.06	0.05	0.04
Max. Qtr. AM	216	µg/m³	10th	0.23	0.21	0.19	0.17	0.16	0.10	0.06	0.04	0.03	0.03
Max. Qtr. AM	216	µg/m³	5th	0.19	0.17	0.15	0.14	0.12	0.07	0.05	0.03	0.02	0.02
Max. Qtr. AM	216	µg/m³	Arith. Mean	0.65	0.54	0.53	0.40	0.37	0.25	0.15	0.11	0.10	0.08
<b>Nitrogen Dioxide</b>													
Arith. Mean	156	ppm	95th	0.051	0.051	0.050	0.046	0.046	0.048	0.050	0.043	0.048	0.045
Arith. Mean	156	ppm	90th	0.040	0.041	0.039	0.038	0.038	0.038	0.035	0.038	0.037	0.036
Arith. Mean	156	ppm	75th	0.029	0.028	0.028	0.027	0.029	0.029	0.028	0.028	0.028	0.028
Arith. Mean	156	ppm	50th	0.023	0.021	0.021	0.021	0.022	0.022	0.022	0.022	0.023	0.022
Arith. Mean	156	ppm	25th	0.016	0.016	0.016	0.016	0.016	0.017	0.016	0.017	0.016	0.016
Arith. Mean	156	ppm	10th	0.007	0.009	0.009	0.008	0.009	0.009	0.009	0.011	0.009	0.009
Arith. Mean	156	ppm	5th	0.003	0.003	0.004	0.003	0.003	0.004	0.004	0.004	0.003	0.003
Arith. Mean	156	ppm	Arith. Mean	0.024	0.024	0.023	0.022	0.023	0.023	0.023	0.023	0.023	0.023
<b>Ozone</b>													
2nd Max. 1-hr.	441	ppm	95th	0.220	0.202	0.196	0.220	0.203	0.190	0.170	0.180	0.200	0.170
2nd Max. 1-hr.	441	ppm	90th	0.177	0.164	0.160	0.186	0.165	0.160	0.150	0.164	0.180	0.143
2nd Max. 1-hr.	441	ppm	75th	0.150	0.140	0.133	0.150	0.138	0.132	0.130	0.140	0.155	0.124
2nd Max. 1-hr.	441	ppm	50th	0.122	0.115	0.115	0.130	0.113	0.112	0.112	0.118	0.130	0.108
2nd Max. 1-hr.	441	ppm	25th	0.105	0.100	0.100	0.110	0.100	0.098	0.098	0.104	0.110	0.099
2nd Max. 1-hr.	441	ppm	10th	0.091	0.090	0.086	0.095	0.090	0.088	0.086	0.090	0.098	0.086
2nd Max. 1-hr.	441	ppm	5th	0.087	0.080	0.080	0.085	0.080	0.078	0.080	0.087	0.088	0.080
2nd Max. 1-hr.	441	ppm	Arith. Mean	0.134	0.125	0.124	0.137	0.124	0.122	0.118	0.124	0.135	0.115
4th Max. 8-hr.	441	ppm	95th	0.142	0.129	0.128	0.145	0.130	0.127	0.120	0.126	0.140	0.120
4th Max. 8-hr.	441	ppm	90th	0.125	0.115	0.114	0.126	0.113	0.111	0.107	0.116	0.128	0.105
4th Max. 8-hr.	441	ppm	75th	0.106	0.101	0.098	0.110	0.099	0.097	0.095	0.102	0.115	0.093
4th Max. 8-hr.	441	ppm	50th	0.093	0.088	0.088	0.096	0.088	0.087	0.085	0.090	0.102	0.084
4th Max. 8-hr.	441	ppm	25th	0.082	0.077	0.076	0.085	0.077	0.077	0.076	0.081	0.087	0.076
4th Max. 8-hr.	441	ppm	10th	0.071	0.068	0.066	0.071	0.067	0.067	0.069	0.072	0.076	0.068
4th Max. 8-hr.	441	ppm	5th	0.065	0.060	0.061	0.063	0.062	0.062	0.062	0.067	0.067	0.063
4th Max. 8-hr.	441	ppm	Arith. Mean	0.097	0.091	0.090	0.099	0.091	0.090	0.088	0.093	0.102	0.087

**Table A-1a.** National Air Quality Trends Statistics for Criteria Pollutants, 1980–1989 (continued)

Statistic	# of Sites	Units	Percentile	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b><i>PM<sub>10</sub></i></b>													
Annual Avg.	—	µg/m <sup>3</sup>	95th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	90th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	75th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	50th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	25th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	10th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	5th	—	—	—	—	—	—	—	—	—	—
Annual Avg.	—	µg/m <sup>3</sup>	Arith. Mean	—	—	—	—	—	—	—	—	—	—
<b><i>Sulfur Dioxide</i></b>													
Arith. Mean	438	ppm	95th	0.0232	0.0223	0.0195	0.0182	0.0184	0.0176	0.0163	0.0162	0.0170	0.0162
Arith. Mean	438	ppm	90th	0.0190	0.0177	0.0164	0.0151	0.0156	0.0150	0.0140	0.0134	0.0143	0.0141
Arith. Mean	438	ppm	75th	0.0134	0.0133	0.0119	0.0121	0.0122	0.0114	0.0114	0.0111	0.0109	0.0107
Arith. Mean	438	ppm	50th	0.0092	0.0090	0.0085	0.0085	0.0088	0.0083	0.0081	0.0078	0.0080	0.0077
Arith. Mean	438	ppm	25th	0.0057	0.0059	0.0057	0.0056	0.0054	0.0050	0.0050	0.0048	0.0048	0.0047
Arith. Mean	438	ppm	10th	0.0029	0.0029	0.0031	0.0029	0.0029	0.0026	0.0025	0.0024	0.0025	0.0023
Arith. Mean	438	ppm	5th	0.0018	0.0018	0.0016	0.0017	0.0018	0.0019	0.0016	0.0016	0.0019	0.0016
Arith. Mean	438	ppm	Arith. Mean	0.0103	0.0101	0.0094	0.0091	0.0092	0.0087	0.0085	0.0083	0.0084	0.0081
2nd Max. 24-hr.	—	ppm	95th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	90th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	75th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	50th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	25th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	10th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	5th	—	—	—	—	—	—	—	—	—	—
2nd Max. 24-hr.	—	ppm	Arith. Mean	—	—	—	—	—	—	—	—	—	—

**Table A-1b.** National Air Quality Trends Statistics for Criteria Pollutants, 1990–1999

Statistic	# of Sites	Units	Percentile	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Carbon Monoxide</b>													
2nd Max. 8-hr.	388	ppm	95th	10.5	9.9	8.9	8.4	8.3	7.9	7.7	6.9	7.0	6.5
2nd Max. 8-hr.	388	ppm	90th	8.9	8.9	8.0	7.4	7.7	6.7	6.7	6.1	5.8	5.6
2nd Max. 8-hr.	388	ppm	75th	7.2	7.2	6.6	6.1	6.2	5.7	5.2	5.0	4.7	4.5
2nd Max. 8-hr.	388	ppm	50th	5.5	5.3	5.0	4.8	5.0	4.3	4.0	3.8	3.6	3.6
2nd Max. 8-hr.	388	ppm	25th	4.2	4.0	3.8	3.7	3.9	3.3	3.0	2.9	2.8	2.6
2nd Max. 8-hr.	388	ppm	10th	3.1	2.9	2.8	2.8	2.7	2.5	2.3	2.1	2.1	2.0
2nd Max. 8-hr.	388	ppm	5th	2.5	2.3	2.3	2.2	2.2	2.2	2.0	1.7	1.8	1.6
2nd Max. 8-hr.	388	ppm	Arith. Mean	5.8	5.7	5.3	5.0	5.1	4.6	4.3	4.0	3.8	3.7
<b>Lead</b>													
Max. Qtr. AM	175	µg/m³	95th	0.40	0.25	0.19	0.18	0.15	0.16	0.14	0.12	0.13	0.10
Max. Qtr. AM	175	µg/m³	90th	0.18	0.16	0.14	0.11	0.10	0.09	0.09	0.09	0.09	0.08
Max. Qtr. AM	175	µg/m³	75th	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.05
Max. Qtr. AM	175	µg/m³	50th	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02
Max. Qtr. AM	175	µg/m³	25th	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Max. Qtr. AM	175	µg/m³	10th	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Max. Qtr. AM	175	µg/m³	5th	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Max. Qtr. AM	175	µg/m³	Arith. Mean	0.10	0.08	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04
<b>Nitrogen Dioxide</b>													
Arith. Mean	230	ppm	95th	0.039	0.043	0.038	0.037	0.040	0.039	0.037	0.034	0.035	0.035
Arith. Mean	230	ppm	90th	0.033	0.032	0.032	0.031	0.032	0.031	0.031	0.030	0.031	0.030
Arith. Mean	230	ppm	75th	0.025	0.025	0.024	0.024	0.024	0.023	0.023	0.022	0.023	0.023
Arith. Mean	230	ppm	50th	0.018	0.018	0.018	0.018	0.019	0.018	0.018	0.017	0.017	0.017
Arith. Mean	230	ppm	25th	0.013	0.012	0.012	0.012	0.013	0.012	0.012	0.012	0.012	0.012
Arith. Mean	230	ppm	10th	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.007
Arith. Mean	230	ppm	5th	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004
Arith. Mean	230	ppm	Arith. Mean	0.020	0.019	0.019	0.019	0.020	0.019	0.018	0.018	0.018	0.018
<b>Ozone</b>													
2nd Max. 1-hr.	703	ppm	95th	0.170	0.170	0.159	0.150	0.147	0.149	0.141	0.142	0.150	0.139
2nd Max. 1-hr.	703	ppm	90th	0.144	0.147	0.130	0.137	0.129	0.139	0.126	0.130	0.133	0.130
2nd Max. 1-hr.	703	ppm	75th	0.120	0.122	0.112	0.120	0.117	0.123	0.114	0.116	0.119	0.118
2nd Max. 1-hr.	703	ppm	50th	0.107	0.107	0.099	0.104	0.104	0.110	0.103	0.103	0.109	0.107
2nd Max. 1-hr.	703	ppm	25th	0.093	0.093	0.090	0.091	0.092	0.098	0.093	0.091	0.097	0.095
2nd Max. 1-hr.	703	ppm	10th	0.083	0.082	0.082	0.080	0.083	0.086	0.084	0.081	0.086	0.085
2nd Max. 1-hr.	703	ppm	5th	0.075	0.076	0.077	0.075	0.077	0.079	0.079	0.075	0.077	0.077
2nd Max. 1-hr.	703	ppm	Arith. Mean	0.112	0.112	0.105	0.108	0.107	0.112	0.105	0.105	0.110	0.107
4th Max. 8-hr.	703	ppm	95th	0.115	0.115	0.107	0.110	0.106	0.112	0.103	0.105	0.110	0.105
4th Max. 8-hr.	703	ppm	90th	0.105	0.108	0.097	0.101	0.098	0.107	0.097	0.100	0.102	0.102
4th Max. 8-hr.	703	ppm	75th	0.093	0.096	0.087	0.090	0.090	0.096	0.090	0.091	0.095	0.095
4th Max. 8-hr.	703	ppm	50th	0.083	0.084	0.079	0.081	0.082	0.088	0.082	0.082	0.087	0.087
4th Max. 8-hr.	703	ppm	25th	0.074	0.073	0.073	0.073	0.074	0.077	0.075	0.073	0.077	0.077
4th Max. 8-hr.	703	ppm	10th	0.066	0.065	0.066	0.063	0.067	0.068	0.068	0.065	0.069	0.067
4th Max. 8-hr.	703	ppm	5th	0.060	0.059	0.061	0.059	0.061	0.062	0.062	0.059	0.060	0.061
<b>4th Max. 8-hr.</b>	<b>703</b>	<b>ppm</b>	<b>Arith. Mean</b>	<b>0.085</b>	<b>0.086</b>	<b>0.081</b>	<b>0.083</b>	<b>0.084</b>	<b>0.087</b>	<b>0.083</b>	<b>0.082</b>	<b>0.086</b>	<b>0.085</b>

**Table A-1b.** National Air Quality Trends Statistics for Criteria Pollutants, 1990–1999 (continued)

Statistic	# of Sites	Units	Percentile	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b><i>PM<sub>10</sub></i></b>													
Annual Avg.	954	µg/m <sup>3</sup>	95th	45.9	45.5	41.7	40.5	39.4	38.4	37.4	37.5	35.5	39.7
Annual Avg.	954	µg/m <sup>3</sup>	90th	39.6	39.8	36.3	35.8	36.2	34.6	33.0	32.2	31.7	32.7
Annual Avg.	954	µg/m <sup>3</sup>	75th	33.9	33.5	30.9	30.1	30.3	29.0	27.6	27.1	27.5	27.6
Annual Avg.	954	µg/m <sup>3</sup>	50th	28.1	28.0	25.7	25.2	25.4	24.2	22.9	22.9	23.4	23.0
Annual Avg.	954	µg/m <sup>3</sup>	25th	23.2	23.4	22.0	21.0	20.9	19.7	19.3	19.3	19.2	19.1
Annual Avg.	954	µg/m <sup>3</sup>	10th	18.8	18.3	17.7	16.9	16.7	15.6	16.1	15.6	15.2	15.0
Annual Avg.	954	µg/m <sup>3</sup>	5th	16.1	15.2	14.7	13.5	13.4	12.6	13.2	12.7	12.9	12.9
Annual Avg.	954	µg/m <sup>3</sup>	Arith. Mean	29.2	29.0	26.8	26.0	26.0	24.8	24.0	23.8	23.6	23.9
<b><i>Sulfur Dioxide</i></b>													
Arith. Mean	480	ppm	95th	0.0176	0.0162	0.0154	0.0154	0.0143	0.0116	0.0113	0.0107	0.0106	0.0103
Arith. Mean	480	ppm	90th	0.0146	0.0140	0.0129	0.0126	0.0123	0.0101	0.0097	0.0091	0.0095	0.0089
Arith. Mean	480	ppm	75th	0.0108	0.0100	0.0095	0.0093	0.0091	0.0074	0.0074	0.0071	0.0070	0.0068
Arith. Mean	480	ppm	50th	0.0077	0.0075	0.0068	0.0067	0.0065	0.0051	0.0053	0.0051	0.0049	0.0048
Arith. Mean	480	ppm	25th	0.0043	0.0044	0.0042	0.0039	0.0037	0.0032	0.0032	0.0031	0.0032	0.0032
Arith. Mean	480	ppm	10th	0.0022	0.0022	0.0020	0.0022	0.0020	0.0018	0.0019	0.0018	0.0019	0.0019
Arith. Mean	480	ppm	5th	0.0014	0.0015	0.0014	0.0015	0.0015	0.0014	0.0014	0.0014	0.0014	0.0014
Arith. Mean	480	ppm	Arith. Mean	0.0081	0.0079	0.0073	0.0072	0.0069	0.0056	0.0056	0.0054	0.0053	0.0052
2nd Max. 24-hr.	481	ppm	95th	0.0870	0.0750	0.0750	0.0720	0.0720	0.0570	0.0600	0.0520	0.0520	0.0520
2nd Max. 24-hr.	481	ppm	90th	0.0660	0.0630	0.0620	0.0590	0.0620	0.0480	0.0470	0.0450	0.0440	0.0410
2nd Max. 24-hr.	481	ppm	75th	0.0480	0.0440	0.0440	0.0420	0.0450	0.0330	0.0330	0.0330	0.0310	0.0290
2nd Max. 24-hr.	481	ppm	50th	0.0330	0.0320	0.0300	0.0280	0.0330	0.0220	0.0230	0.0230	0.0220	0.0210
2nd Max. 24-hr.	481	ppm	25th	0.0200	0.0200	0.0190	0.0190	0.0190	0.0150	0.0150	0.0140	0.0140	0.0140
2nd Max. 24-hr.	481	ppm	10th	0.0100	0.0100	0.0100	0.0100	0.0090	0.0080	0.0090	0.0070	0.0070	0.0070
2nd Max. 24-hr.	481	ppm	5th	0.0060	0.0070	0.0060	0.0060	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
2nd Max. 24-hr.	481	ppm	Arith. Mean	0.0376	0.0350	0.0340	0.0328	0.0343	0.0259	0.0263	0.0251	0.0242	0.0233

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>4,632</b>	<b>4,480</b>	<b>7,302</b>	<b>8,485</b>	<b>7,443</b>	<b>5,510</b>	<b>5,856</b>	<b>6,155</b>	<b>5,586</b>	<b>5,519</b>	<b>5,934</b>	<b>6,206</b>	<b>5,484</b>	<b>5,075</b>	<b>5,322</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>237</b>	<b>276</b>	<b>322</b>	<b>291</b>	<b>321</b>	<b>363</b>	<b>349</b>	<b>350</b>	<b>363</b>	<b>370</b>	<b>372</b>	<b>409</b>	<b>423</b>	<b>450</b>	<b>445</b>
Coal	106	134	188	207	233	234	234	236	246	247	250	251	257	242	239
Oil	41	69	48	18	26	20	19	15	16	15	10	12	14	19	18
Gas	90	73	85	56	51	51	51	51	49	53	55	79	84	97	94
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	9	33	33
Internal Combustion	NA	NA	NA	10	11	57	45	47	51	55	58	58	60	60	61
<b>FUEL COMB. INDUSTRIAL</b>	<b>770</b>	<b>763</b>	<b>750</b>	<b>670</b>	<b>672</b>	<b>879</b>	<b>920</b>	<b>955</b>	<b>1,043</b>	<b>1,041</b>	<b>1,056</b>	<b>1,191</b>	<b>1,163</b>	<b>1,151</b>	<b>1,178</b>
Coal	100	67	58	86	87	105	101	102	101	100	98	110	109	106	109
Oil	44	49	35	47	46	74	60	64	66	66	71	54	52	51	52
Gas	462	463	418	257	271	226	284	300	322	337	345	340	339	336	342
Other	164	184	239	167	173	279	267	264	286	287	297	349	333	334	341
Internal Combustion	NA	NA	NA	113	96	195	208	227	268	251	245	337	330	324	334
<b>FUEL COMB. OTHER</b>	<b>3,625</b>	<b>3,441</b>	<b>6,230</b>	<b>7,525</b>	<b>6,450</b>	<b>4,269</b>	<b>4,587</b>	<b>4,849</b>	<b>4,181</b>	<b>4,108</b>	<b>4,506</b>	<b>4,606</b>	<b>3,898</b>	<b>3,474</b>	<b>3,699</b>
Commercial/Institutional Coal	12	17	13	14	15	14	14	15	15	15	15	14	14	15	15
Commercial/Institutional Oil	27	23	21	18	17	18	17	18	18	18	19	19	20	16	16
Commercial/Institutional Gas	24	25	26	42	49	44	44	51	53	54	54	64	65	63	69
Misc. Fuel Comb. (Except Residential)	NA	NA	57	55	149	141	141	143	147	145	145	46	48	49	50
Residential Wood	2,932	3,114	5,992	7,232	6,161	3,781	4,090	4,332	3,679	3,607	3,999	4,207	3,499	3,089	3,300
fireplaces	2,932	3,114	5,992	7,232	6,161	3,781	4,090	4,332	3,679	3,607	3,999	3,579	2,891	2,518	2,699
woodstoves	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	304	293	276	290
other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	325	314	296	312
Residential Other	630	262	178	162	153	262	281	292	274	268	273	255	252	242	249
<b>Industrial Processes</b>	<b>16,899</b>	<b>10,770</b>	<b>9,250</b>	<b>7,215</b>	<b>7,013</b>	<b>5,852</b>	<b>5,740</b>	<b>5,683</b>	<b>5,898</b>	<b>5,839</b>	<b>5,790</b>	<b>4,759</b>	<b>4,932</b>	<b>4,955</b>	<b>7,590</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>3,397</b>	<b>2,204</b>	<b>2,151</b>	<b>1,845</b>	<b>1,925</b>	<b>1,183</b>	<b>1,127</b>	<b>1,112</b>	<b>1,093</b>	<b>1,171</b>	<b>1,223</b>	<b>1,053</b>	<b>1,071</b>	<b>1,081</b>	<b>1,081</b>
Organic Chemical Mfg	340	483	543	251	285	149	128	131	132	130	127	90	91	92	93
ethylene dichloride	11	12	17	0	0	0	0	0	0	0	0	0	0	0	0
maleic anhydride	73	147	103	16	16	3	3	4	4	4	4	0	0	0	0
cyclohexanol	36	39	37	5	6	0	0	0	0	1	1	0	0	0	0
other	220	286	386	230	264	146	125	127	128	125	123	89	90	92	92
Inorganic Chemical Mfg	190	153	191	89	95	133	129	130	131	135	134	120	121	123	125
pigments; TiO2 chloride proc.: reactor	22	34	77	84	119	119	119	119	119	119	119	117	118	120	122
other	172	131	157	12	12	14	11	12	13	16	15	3	3	3	3
Polymer & Resin Mfg	NA	NA	NA	19	18	3	6	5	5	5	5	5	5	5	5
Agricultural Chemical Mfg	NA	NA	NA	16	17	44	19	19	18	17	17	12	13	13	13
Paint, Varnish, Lacquer, Enamel Mfg	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Pharmaceutical Mfg	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	1
Other Chemical Mfg	2,866	1,567	1,417	1,471	1,510	854	844	827	805	885	939	826	841	847	845
carbon black mfg	2,866	1,567	1,417	1,078	1,112	798	756	736	715	793	845	796	811	818	815
carbon black furnace: fugitives	NA	NA	NA	155	180	17	54	57	60	63	65	4	4	4	4
other	NA	NA	NA	238	219	39	35	34	30	29	26	26	26	26	26
<b>METALS PROCESSING</b>	<b>3,644</b>	<b>2,496</b>	<b>2,246</b>	<b>2,223</b>	<b>2,132</b>	<b>2,640</b>	<b>2,571</b>	<b>2,496</b>	<b>2,536</b>	<b>2,475</b>	<b>2,380</b>	<b>1,604</b>	<b>1,709</b>	<b>1,702</b>	<b>1,678</b>
Nonferrous Metals Processing	652	636	842	694	677	436	438	432	423	421	424	459	475	465	454
aluminum anode baking	326	318	421	41	41	41	47	41	41	41	41	22	23	23	23
prebake aluminum cell	326	318	421	257	254	260	260	260	260	260	277	288	281	274	274
other	NA	NA	NA	396	382	135	131	131	122	120	123	160	164	160	157

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Table A-2. National Carbon Monoxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

**Table A-2.**National Carbon Monoxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (cont.)

<b>Source Category</b>	<b>1970</b>	<b>1975</b>	<b>1980</b>	<b>1985</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Ferrous Metals Processing	2,991	1,859	1,404	1,523	1,449	2,163	2,108	2,038	2,089	2,029	1,930	1,101	1,189	1,193	1,181
basic oxygen furnace	440	125	80	694	662	594	731	767	768	677	561	268	296	301	301
carbon steel electric arc furnace	181	204	280	19	18	45	54	49	58	61	65	60	65	66	65
coke oven charging	62	53	43	9	9	14	16	17	7	7	8	4	4	4	4
gray iron cupola	1,203	649	340	302	280	124	118	114	121	128	120	111	115	111	106
iron ore sinter plant windbox	1,025	759	600	304	293	211	211	211	211	211	211	46	50	50	50
other	81	70	61	194	187	1,174	979	880	924	945	966	612	659	661	654
Metals Processing NEC	NA	NA	NA	6	6	40	25	26	25	25	25	44	46	44	43
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	<b>2,211</b>	<b>1,723</b>	<b>462</b>	<b>436</b>	<b>333</b>	<b>345</b>	<b>371</b>	<b>371</b>	<b>338</b>	<b>348</b>	<b>354</b>	<b>367</b>	<b>366</b>	<b>366</b>	<b>366</b>
Oil & Gas Production	NA	NA	NA	11	8	38	18	21	22	35	34	27	27	27	27
Petroleum Refineries & Related Ind.	2,168	2,211	1,723	449	427	291	324	345	344	299	309	319	332	331	332
fcc units	1,820	2,032	1,680	403	390	284	315	333	328	286	299	308	320	319	320
other	348	179	44	46	37	7	9	13	17	13	10	11	12	12	12
Asphalt Manufacturing	11	NA	NA	2	2	3	4	5	5	5	5	8	8	8	7
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>620</b>	<b>630</b>	<b>830</b>	<b>694</b>	<b>716</b>	<b>537</b>	<b>548</b>	<b>544</b>	<b>594</b>	<b>600</b>	<b>624</b>	<b>561</b>	<b>582</b>	<b>590</b>	<b>599</b>
Agriculture, Food, & Kindred Products	NA	NA	0	0	3	3	3	3	3	2	6	4	4	4	4
Textiles, Leather, & Apparel Products	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood, Pulp & Paper, & Pub. Prod.	610	602	798	627	655	473	461	449	453	461	484	356	370	378	388
sulfate pulping: rec. furnace/evaporator	NA	NA	475	497	370	360	348	350	355	370	274	285	291	299	299
sulfate (kraft) pulping: lime kiln	610	602	798	140	146	87	81	75	78	76	82	50	52	53	55
other	NA	NA	NA	12	13	16	21	25	24	30	32	32	33	34	34
Rubber & Miscellaneous Plastic Prod.	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Mineral Products	10	27	32	43	43	54	77	85	131	131	127	180	186	186	185
Machinery Products	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	1
Electronic Equipment	NA	NA	NA	18	12	2	2	2	2	2	2	0	0	0	0
Transportation Equipment	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	NA	NA	NA	6	5	5	5	6	4	4	4	19	19	20	20
<b>SOLVENT UTILIZATION</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>
Degreasing	NA	NA	NA	1	1	0	0	0	0	0	0	0	0	0	0
Graphic Arts	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Dry Cleaning	NA	NA	NA	NA	NA	0	0	0	0	0	1	1	0	0	0
Surface Coating	NA	NA	NA	0	1	0	1	1	1	1	1	1	1	1	1
Other Industrial	NA	NA	NA	0	0	4	4	4	4	4	4	0	0	0	0
Nonindustrial	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Solvent Utilization NEC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
<b>STORAGE &amp; TRANSPORT</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>49</b>	<b>55</b>	<b>76</b>	<b>28</b>	<b>17</b>	<b>51</b>	<b>24</b>	<b>25</b>	<b>70</b>	<b>71</b>	<b>72</b>	<b>72</b>
Bulk Terminals & Plants	NA	NA	NA	0	0	0	2	0	4	4	4	0	0	0	0
Petroleum & Petroleum Prod. Storage	NA	NA	NA	0	0	0	12	0	32	4	4	0	0	0	0
Petroleum & Petroleum Prod. Trans.	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Service Stations: Stage I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Service Stations: Stage II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Organic Chemical Storage	NA	NA	NA	42	49	74	13	13	13	13	13	68	69	70	70
Organic Chemical Transport	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	NA	NA	NA	6	5	1	1	3	2	3	3	1	1	1	1

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>7,059</b>	<b>3,230</b>	<b>2,300</b>	<b>1,941</b>	<b>1,747</b>	<b>1,079</b>	<b>1,116</b>	<b>1,138</b>	<b>1,248</b>	<b>1,225</b>	<b>1,185</b>	<b>1,116</b>	<b>1,130</b>	<b>1,142</b>	<b>3,792</b>
Incineration	2,979	1,764	1,246	958	876	372	392	404	497	467	432	403	408	412	416
conical wood burner	1,431	579	228	17	19	6	7	6	6	6	6	2	2	2	2
municipal incinerator	333	23	13	34	35	16	17	15	14	14	15	7	7	8	8
industrial	NA	NA	NA	9	9	9	10	10	87	48	10	9	10	10	10
commercial/institutional	108	68	60	32	39	19	20	21	21	21	21	22	23	24	24
residential	1,107	1,094	945	865	773	294	312	324	340	347	351	330	333	337	339
other	NA	NA	NA	2	2	27	26	28	29	30	29	32	32	33	33
Open Burning	4,080	1,466	1,054	982	870	706	722	731	749	755	750	706	715	723	3,369
industrial	1,932	1,254	1,007	20	21	14	14	15	15	15	15	15	16	16	0
commercial/institutional	2,148	212	47	4	5	46	48	50	52	54	52	84	88	90	0
residential	NA	NA	NA	958	845	509	516	523	529	533	536	506	510	515	422
other	NA	NA	NA	NA	NA	137	144	144	153	153	147	101	101	102	2,947
POTW	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
TSDF	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Landfills	NA	NA	NA	0	0	1	1	2	2	2	2	6	6	6	6
Other	NA	NA	NA	0	0	0	0	0	1	1	1	0	0	0	0
<b>Transportation</b>	<b>100,004</b>	<b>96,243</b>	<b>92,538</b>	<b>93,386</b>	<b>83,829</b>	<b>76,635</b>	<b>81,583</b>	<b>80,235</b>	<b>81,224</b>	<b>82,699</b>	<b>75,035</b>	<b>79,795</b>	<b>78,509</b>	<b>77,478</b>	<b>75,151</b>
<b>ON-ROAD VEHICLES</b>	<b>88,034</b>	<b>83,134</b>	<b>78,049</b>	<b>77,387</b>	<b>66,050</b>	<b>58,444</b>	<b>62,999</b>	<b>61,236</b>	<b>61,833</b>	<b>62,903</b>	<b>54,811</b>	<b>54,388</b>	<b>53,315</b>	<b>52,360</b>	<b>49,989</b>
Light-Duty Gas Vehicles & Motorcycles	64,031	59,281	53,561	49,451	42,234	34,996	35,680	33,761	33,185	33,317	29,787	29,163	28,639	28,420	27,382
light-duty gas vehicles	63,846	59,061	53,342	49,273	42,047	34,806	35,503	33,582	32,995	33,122	29,601	28,974	28,449	28,225	27,187
motorcycles	185	220	219	178	187	190	177	179	190	195	187	189	191	195	195
Light-Duty Gas Trucks	16,570	15,767	16,137	18,960	15,940	17,118	20,622	21,536	22,795	22,614	19,434	16,873	16,949	16,948	16,115
light-duty gas trucks 1	10,102	9,611	10,395	11,834	9,034	9,672	11,606	12,065	12,647	12,428	11,029	11,221	11,296	11,315	10,766
light-duty gas trucks 2	6,468	6,156	5,742	7,126	6,906	7,446	9,016	9,471	10,148	10,186	8,405	5,652	5,652	5,634	5,349
Heavy-Duty Gas Vehicles	6,712	7,140	7,189	7,716	6,506	5,029	5,369	4,586	4,483	5,523	4,103	6,260	5,549	4,782	4,262
Diesels	721	945	1,161	1,261	1,369	1,301	1,327	1,353	1,370	1,449	1,487	2,093	2,178	2,210	2,230
heavy-duty diesel vehicles	721	915	1,139	1,235	1,336	1,233	1,292	1,317	1,333	1,411	1,447	2,074	2,162	2,197	2,217
light-duty diesel trucks	NA	NA	4	4	6	46	8	9	10	10	7	6	5	5	5
light-duty diesel vehicles	NA	30	19	22	28	22	27	27	28	29	29	12	10	8	8
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>11,970</b>	<b>13,109</b>	<b>14,489</b>	<b>15,999</b>	<b>17,779</b>	<b>18,191</b>	<b>18,585</b>	<b>18,999</b>	<b>19,391</b>	<b>19,796</b>	<b>20,224</b>	<b>25,407</b>	<b>25,194</b>	<b>25,118</b>	<b>25,162</b>
Non-Road Gasoline	10,946	11,754	12,760	13,659	15,021	15,394	15,738	16,081	16,424	16,765	17,112	22,012	21,773	21,657	21,717
recreational	268	283	299	312	321	355	361	366	371	374	382	1,376	1,359	1,355	1,357
construction	358	393	527	603	603	603	602	602	602	602	602	723	688	674	667
industrial	535	586	709	807	740	723	707	690	674	657	640	864	823	793	767
lawn & garden	5,899	6,324	6,764	7,166	8,023	8,237	8,451	8,665	8,880	9,094	9,308	11,330	11,243	11,073	11,063
farm	202	267	338	372	407	416	424	433	442	450	459	340	343	346	349
light commercial	1,905	1,997	2,095	2,263	2,754	2,877	3,000	3,123	3,246	3,369	3,491	3,992	4,061	4,138	4,187
logging	10	23	28	31	47	50	54	58	62	66	69	1,160	1,012	1,016	1,067
airport service	6	8	9	10	10	10	10	9	9	9	9	9	9	9	9
railway maintenance	NA	NA	NA	5	6	6	6	6	6	6	7	7	7	7	6
recreational marine vessels	1,763	1,873	1,990	2,090	2,112	2,117	2,122	2,128	2,133	2,138	2,144	2,211	2,228	2,244	2,247

Table A-2. National Carbon Monoxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons) (cont.)

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Table A-2. National Carbon Monoxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (cont.)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-Road Diesel	430	650	829	900	1,062	1,098	1,134	1,169	1,204	1,238	1,269	1,386	1,377	1,352	1,302
<i>recreational</i>	1	2	2	3	3	3	3	3	3	3	3	5	5	5	5
<i>construction</i>	254	362	479	534	637	662	688	714	739	763	785	878	869	846	802
<i>industrial</i>	88	69	83	105	121	124	127	130	134	138	142	149	151	151	151
<i>lawn &amp; garden</i>	6	12	13	14	26	29	32	34	37	39	42	47	50	53	53
<i>farm</i>	16	138	174	142	163	166	168	170	172	174	175	165	163	161	156
<i>light commercial</i>	20	27	28	34	44	46	48	49	51	52	54	62	64	67	72
<i>logging</i>	43	38	49	61	58	58	58	57	57	56	55	63	58	52	46
<i>airport service</i>	1	1	1	2	3	4	4	5	5	5	6	7	7	8	8
<i>railway maintenance</i>	UA	UA	UA	1	2	2	2	2	2	3	3	3	3	3	3
<i>recreational marine vessels</i>	UA	UA	UA	3	4	4	4	4	4	4	5	7	7	7	7
Aircraft	506	600	743	831	955	904	888	901	905	915	942	949	958	995	1,002
Marine Vessels	23	28	62	73	98	129	136	132	126	127	127	132	135	137	138
<i>coal</i>	2	2	4	5	7	4	4	4	4	5	4	4	4	4	5
<i>diesel</i>	21	25	57	67	90	80	83	79	75	76	77	127	129	130	131
<i>residual oil</i>	0	0	1	1	2	11	11	12	12	12	10	0	0	0	0
<i>gasoline</i>	NA	NA	NA	NA	NA	2	2	2	2	2	2	2	2	2	2
<i>other</i>	NA	NA	NA	NA	NA	31	36	35	33	33	34	0	0	0	0
Railroads	65	77	96	106	121	121	120	125	120	114	114	117	121	120	119
Non-Road Other	0	0	0	430	522	545	568	591	614	637	660	810	831	858	883
<i>liquefied petroleum gas</i>	NA	NA	NA	288	376	398	420	442	464	486	508	704	724	749	773
<i>compressed natural gas</i>	NA	NA	NA	142	146	147	148	149	150	151	152	106	108	109	111
<b>Miscellaneous</b>	<b>7,909</b>	<b>5,263</b>	<b>8,344</b>	<b>7,927</b>	<b>8,153</b>	<b>11,122</b>	<b>8,618</b>	<b>6,934</b>	<b>7,082</b>	<b>9,656</b>	<b>7,298</b>	<b>10,534</b>	<b>12,534</b>	<b>9,364</b>	<b>9,378</b>
Agriculture & Forestry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Other Combustion	7,909	5,263	8,344	7,927	8,153	11,122	8,618	6,934	7,082	9,656	7,298	10,534	12,534	9,364	9,378
<i>structural fires</i>	101	258	217	242	242	78	80	81	82	83	84	80	78	79	85
<i>agricultural fires</i>	873	539	501	396	571	415	413	421	415	441	465	454	464	471	479
<i>slash/prescribed burning</i>	1,146	2,268	2,226	4,332	4,332	4,668	4,666	4,729	4,966	4,990	5,252	5,402	5,769	6,152	6,152
<i>forest wildfires</i>	5,620	2,165	5,396	2,957	3,009	5,928	3,430	1,674	1,586	4,114	1,469	4,574	6,200	2,638	2,638
<i>other</i>	169	34	4	NA	NA	32	28	30	34	28	28	22	23	23	24
Health Services	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	0
Cooling Towers	NA	NA	NA	NA	NA	NA	0	0	NA	0	0	0	0	0	0
Fugitive Dust	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ALL SOURCES</b>	<b>129,444</b>	<b>116,757</b>	<b>117,434</b>	<b>117,013</b>	<b>106,439</b>	<b>99,119</b>	<b>101,797</b>	<b>99,007</b>	<b>99,791</b>	<b>103,713</b>	<b>94,058</b>	<b>101,294</b>	<b>101,459</b>	<b>96,872</b>	<b>97,441</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>10,616</b>	<b>10,347</b>	<b>4,299</b>	<b>515</b>	<b>505</b>	<b>500</b>	<b>495</b>	<b>491</b>	<b>497</b>	<b>496</b>	<b>490</b>	<b>492</b>	<b>493</b>	<b>494</b>	<b>501</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>327</b>	<b>230</b>	<b>129</b>	<b>64</b>	<b>67</b>	<b>64</b>	<b>61</b>	<b>59</b>	<b>62</b>	<b>62</b>	<b>57</b>	<b>61</b>	<b>64</b>	<b>69</b>	<b>72</b>
Coal	300	189	95	51	46	46	46	47	50	50	50	53	54	55	56
bituminous	181	114	57	31	28	28	28	28	30	30	30	32	33	33	34
subbituminous	89	56	28	15	14	14	14	14	15	15	15	16	16	17	
anthracite & lignite	30	19	9	5	4	4	4	4	5	5	5	5	5	5	5
Oil	28	41	34	13	21	18	15	12	12	12	7	8	10	14	16
residual	27	40	34	13	21	18	15	12	12	12	7	8	10	14	16
distillate	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>FUEL COMB. INDUSTRIAL</b>	<b>237</b>	<b>75</b>	<b>60</b>	<b>30</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>19</b>	<b>18</b>	<b>16</b>	<b>16</b>	<b>15</b>	<b>17</b>
Coal	218	60	45	22	14	14	15	14	14	14	14	13	14	13	13
bituminous	146	40	31	15	10	10	10	10	10	10	10	9	9	9	9
subbituminous	45	12	10	5	3	3	3	3	3	3	3	3	3	3	3
anthracite & lignite	27	7	4	2	1	1	1	1	1	1	1	1	1	1	1
Oil	19	16	14	8	4	3	3	4	5	5	4	3	2	2	3
residual	17	14	14	7	3	3	2	3	4	4	3	2	2	1	3
distillate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>FUEL COMB. OTHER</b>	<b>10,052</b>	<b>10,042</b>	<b>4,111</b>	<b>421</b>	<b>420</b>	<b>418</b>	<b>416</b>	<b>414</b>	<b>416</b>	<b>415</b>	<b>415</b>	<b>415</b>	<b>413</b>	<b>410</b>	<b>412</b>
Commercial/Institutional Coal	1	16	12	6	4	4	3	4	4	3	4	5	5	4	4
bituminous	1	6	6	4	3	3	2	2	2	2	2	3	3	2	2
subbituminous	NA	2	2	1	1	1	1	1	1	1	1	1	1	1	1
anthracite, lignite	NA	7	4	1	1	0	0	0	1	0	1	1	1	1	1
Commercial/Institutional Oil	4	11	10	4	4	4	4	4	4	4	4	3	2	2	3
residual	3	10	9	3	3	3	3	3	3	3	3	2	2	1	3
distillate	NA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
other	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0
Misc. Fuel Comb. (Except Residential)	10,000	10,000	4,080	400	400	400	400	400	400	400	400	400	400	400	400
Residential Other	47	16	9	11	12	10	9	7	8	8	8	7	6	5	5
<b>Industrial Processes</b>	<b>28,554</b>	<b>12,976</b>	<b>5,148</b>	<b>3,402</b>	<b>3,161</b>	<b>3,278</b>	<b>3,081</b>	<b>2,736</b>	<b>2,872</b>	<b>3,007</b>	<b>2,875</b>	<b>3,061</b>	<b>3,121</b>	<b>3,045</b>	<b>3,162</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>103</b>	<b>120</b>	<b>104</b>	<b>118</b>	<b>136</b>	<b>136</b>	<b>132</b>	<b>93</b>	<b>92</b>	<b>96</b>	<b>163</b>	<b>167</b>	<b>188</b>	<b>194</b>	<b>218</b>
Inorganic Chemical Mfg	103	120	104	118	136	136	132	93	92	96	163	167	188	194	218
lead oxide and pigments	103	120	104	118	136	136	132	93	92	96	163	167	188	194	218
<b>METALS PROCESSING</b>	<b>24,224</b>	<b>9,923</b>	<b>3,026</b>	<b>2,097</b>	<b>2,088</b>	<b>2,170</b>	<b>1,974</b>	<b>1,774</b>	<b>1,900</b>	<b>2,027</b>	<b>2,049</b>	<b>2,055</b>	<b>2,081</b>	<b>1,991</b>	<b>2,078</b>
Nonferrous Metals Processing	15,869	7,192	1,826	1,376	1,337	1,409	1,258	1,112	1,210	1,287	1,337	1,333	1,342	1,259	1,329
primary lead production	12,134	5,640	1,075	874	715	728	623	550	637	633	674	588	619	608	623
primary copper production	242	171	20	19	19	19	19	20	21	22	21	22	24	25	25
primary zinc production	1,019	224	24	16	9	9	11	11	13	12	12	13	13	12	12
secondary lead production	1,894	821	481	288	433	449	414	336	341	405	432	514	484	413	465
secondary copper production	374	200	116	70	37	75	65	73	70	76	79	76	82	78	81
lead battery manufacture	41	49	50	65	74	78	77	77	81	94	102	103	107	110	117
lead cable coating	127	55	37	43	50	50	48	44	47	44	16	16	14	13	4
other	38	32	24	3	1	1	1	1	1	1	1	1	1	1	1

Table A-3. National Lead Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (short tons)

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**Table A-3.**National Lead Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (short tons) (continued)

<b>Source Category</b>	<b>1970</b>	<b>1975</b>	<b>1980</b>	<b>1985</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Ferrous Metals Processing	7,395	2,196	911	577	582	576	517	461	496	540	528	529	538	536	555
<i>coke manufacturing</i>	11	8	6	3	4	4	3	3	2	0	0	0	0	0	0
<i>ferroalloy production</i>	219	104	13	7	20	18	14	14	12	13	8	8	8	7	6
<i>iron production</i>	266	93	38	21	19	18	16	17	18	18	19	18	18	18	18
<i>steel production</i>	3,125	1,082	481	209	138	138	145	139	145	160	159	160	165	168	173
<i>gray iron production</i>	3,773	910	373	336	401	397	339	288	319	349	342	343	348	343	357
Metals Processing NEC	960	535	289	144	170	185	199	202	194	200	184	193	201	196	195
<i>metal mining</i>	353	268	207	141	169	184	198	201	193	199	183	192	200	195	194
<i>other</i>	606	268	82	3	1	1	1	1	1	1	1	1	1	1	1
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>2,028</b>	<b>1,337</b>	<b>808</b>	<b>316</b>	<b>173</b>	<b>169</b>	<b>167</b>	<b>56</b>	<b>55</b>	<b>54</b>	<b>59</b>	<b>51</b>	<b>54</b>	<b>54</b>	<b>53</b>
Mineral Products	540	217	93	43	23	26	24	26	27	28	29	29	30	30	31
<i>cement manufacturing</i>	540	217	93	43	23	26	24	26	27	28	29	29	30	30	31
Miscellaneous Industrial Processes	1,488	1,120	715	273	150	143	143	30	28	26	30	22	25	23	22
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>2,200</b>	<b>1,595</b>	<b>1,210</b>	<b>871</b>	<b>765</b>	<b>804</b>	<b>808</b>	<b>812</b>	<b>825</b>	<b>830</b>	<b>604</b>	<b>788</b>	<b>798</b>	<b>806</b>	<b>813</b>
Incineration	2,200	1,595	1,210	871	765	804	808	812	825	830	604	788	798	806	813
<i>municipal waste</i>	581	396	161	79	45	67	70	68	69	68	70	76	76	76	77
<i>other</i>	1,619	1,199	1,049	792	720	738	738	744	756	762	534	712	722	729	736
<b>Transportation</b>	<b>181,698</b>	<b>136,336</b>	<b>64,706</b>	<b>18,973</b>	<b>1,802</b>	<b>1,197</b>	<b>592</b>	<b>584</b>	<b>547</b>	<b>544</b>	<b>564</b>	<b>525</b>	<b>523</b>	<b>518</b>	<b>536</b>
<b>ON-ROAD VEHICLES</b>	<b>171,961</b>	<b>130,206</b>	<b>60,501</b>	<b>18,052</b>	<b>982</b>	<b>421</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>
Light-Duty Gas Vehicles & Motorcycles	142,918	106,868	47,184	13,637	733	314	13	14	14	14	14	12	13	14	14
Light-Duty Gas Trucks	22,683	19,440	11,671	4,061	232	100	4	4	5	5	5	7	7	7	7
Heavy-Duty Gas Vehicles	6,361	3,898	1,646	354	16	7	0	0	0	0	0	0	0	1	1
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>9,737</b>	<b>6,130</b>	<b>4,205</b>	<b>921</b>	<b>820</b>	<b>776</b>	<b>574</b>	<b>565</b>	<b>529</b>	<b>525</b>	<b>544</b>	<b>505</b>	<b>503</b>	<b>497</b>	<b>515</b>
Non-Road Gasoline	8,340	5,012	3,320	229	166	158	0	0	0	0	0	0	0	0	0
Aircraft	1,397	1,118	885	692	655	619	574	565	528	525	544	505	503	497	515
<b>TOTAL ALL SOURCES</b>	<b>220,869</b>	<b>159,659</b>	<b>74,153</b>	<b>22,890</b>	<b>5,468</b>	<b>4,975</b>	<b>4,169</b>	<b>3,810</b>	<b>3,916</b>	<b>4,047</b>	<b>3,929</b>	<b>4,077</b>	<b>4,137</b>	<b>4,057</b>	<b>4,199</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>10,061</b>	<b>10,486</b>	<b>11,320</b>	<b>10,048</b>	<b>10,537</b>	<b>10,895</b>	<b>10,779</b>	<b>10,928</b>	<b>11,111</b>	<b>11,015</b>	<b>10,827</b>	<b>10,523</b>	<b>10,576</b>	<b>10,396</b>	<b>10,026</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>4,900</b>	<b>5,694</b>	<b>7,024</b>	<b>6,127</b>	<b>6,593</b>	<b>6,663</b>	<b>6,519</b>	<b>6,504</b>	<b>6,651</b>	<b>6,565</b>	<b>6,384</b>	<b>6,141</b>	<b>6,279</b>	<b>6,231</b>	<b>5,715</b>
Coal	3,888	4,828	6,123	5,240	5,676	5,642	5,559	5,579	5,744	5,636	5,579	5,574	5,644	5,436	4,935
bituminous	2,112	2,590	3,439	4,378	4,595	4,532	4,435	4,456	4,403	4,207	3,830	3,776	3,828	3,635	3,229
subbituminous	1,041	1,276	1,694	668	837	857	874	868	1,087	1,167	1,475	1,570	1,591	1,575	1,504
anthracite & lignite	344	414	542	194	245	254	250	255	255	262	273	229	225	226	202
other	391	548	447	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Oil	1,012	866	901	193	285	221	212	170	180	163	96	118	145	223	202
residual	40	101	39	178	268	207	198	158	166	149	94	116	142	220	199
distillate	972	765	862	15	17	14	14	13	14	14	2	2	2	3	3
other	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	0	0	0	0
Gas	NA	NA	NA	646	582	565	580	579	551	591	562	285	319	381	385
natural	NA	NA	NA	646	582	565	580	579	551	591	562	273	306	363	367
process	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	13	19	18
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	7	27	26
Internal Combustion	NA	NA	NA	48	49	235	168	175	176	175	148	158	165	164	167
<b>FUEL COMB. INDUSTRIAL</b>	<b>4,325</b>	<b>4,007</b>	<b>3,555</b>	<b>3,209</b>	<b>3,209</b>	<b>3,035</b>	<b>2,979</b>	<b>3,071</b>	<b>3,151</b>	<b>3,147</b>	<b>3,144</b>	<b>3,157</b>	<b>3,102</b>	<b>3,051</b>	<b>3,136</b>
Coal	771	520	444	608	615	585	570	574	589	602	597	543	537	524	542
bituminous	532	359	306	430	446	399	387	405	413	420	412	369	364	357	370
subbituminous	164	111	94	14	14	18	20	21	28	38	46	46	46	44	46
anthracite & lignite	75	51	44	33	30	26	26	26	26	27	26	19	19	18	18
other	NA	NA	NA	131	124	141	137	122	122	117	112	109	108	105	108
Oil	332	354	286	309	294	265	237	244	245	241	247	225	216	209	214
residual	228	186	179	191	176	180	146	154	153	149	156	141	130	126	129
distillate	104	112	63	89	88	71	73	73	75	76	73	73	74	72	73
other	NA	56	44	29	29	14	18	17	17	17	17	11	12	11	11
Gas	3,060	2,983	2,619	1,520	1,625	1,182	1,250	1,301	1,330	1,333	1,324	1,205	1,189	1,175	1,202
natural	3,053	2,837	2,469	1,282	1,405	967	1,025	1,068	1,095	1,103	1,102	993	970	958	985
process	8	5	5	227	209	211	222	230	233	228	220	210	216	215	214
other	NA	140	145	11	10	3	3	3	2	2	2	3	3	3	3
Other	162	149	205	118	120	131	129	126	124	124	123	120	115	115	118
wood/bark waste	102	108	138	89	92	89	82	82	83	83	84	83	79	80	82
liquid waste	NA	NA	NA	12	12	8	11	10	11	11	11	9	8	8	8
other	60	41	67	17	16	34	36	34	30	30	28	29	28	27	28
Internal Combustion	NA	NA	NA	655	556	874	793	825	863	846	854	1,064	1,045	1,028	1,059
<b>FUEL COMB. OTHER</b>	<b>836</b>	<b>785</b>	<b>741</b>	<b>712</b>	<b>736</b>	<b>1,196</b>	<b>1,281</b>	<b>1,353</b>	<b>1,308</b>	<b>1,303</b>	<b>1,298</b>	<b>1,225</b>	<b>1,195</b>	<b>1,114</b>	<b>1,175</b>
Commercial/Institutional Coal	23	33	25	37	38	40	36	38	40	40	38	34	35	37	37
Commercial/Institutional Oil	210	176	155	106	106	97	88	93	93	95	103	96	97	80	80
Commercial/Institutional Gas	120	125	131	145	159	200	210	225	232	237	231	247	252	243	266
Misc. Fuel Comb. (Except Residential)NA	NA	NA	11	11	34	32	28	31	31	30	27	28	29	28	28
Residential Wood	44	39	74	88	75	46	50	53	45	44	49	51	43	38	40
Residential Other	439	412	356	326	347	780	865	916	867	857	847	770	740	688	723
distillate oil	118	113	85	75	78	209	211	210	210	210	210	193	188	172	175
natural gas	242	246	238	248	267	449	469	489	513	516	519	470	437	400	433
other	79	54	33	3	3	121	185	218	144	131	118	108	114	117	116

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Table A-4. National Nitrogen Oxides Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

**Table A-4.**National Nitrogen Oxides Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Industrial Processes</b>	1,215	697	666	891	852	892	816	857	861	878	873	903	939	950	942
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	271	221	213	262	273	168	165	163	155	160	158	125	127	129	131
Organic Chemical Mfg	70	53	54	37	42	18	22	22	19	20	20	21	21	21	21
Inorganic Chemical Mfg	201	168	159	22	18	12	12	10	5	6	7	6	6	6	6
Polymer & Resin Mfg	NA	NA	NA	22	23	6	6	6	5	5	4	3	3	3	3
Agricultural Chemical Mfg	NA	NA	NA	143	152	80	77	76	74	76	74	50	51	52	53
Paint, Varnish, Lacquer, Enamel Mfg	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Pharmaceutical Mfg	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Other Chemical Mfg	NA	NA	NA	38	39	52	48	50	51	54	54	45	46	47	47
<b>METALS PROCESSING</b>	77	73	65	87	83	97	76	81	83	91	98	83	88	88	88
Nonferrous Metals Processing	NA	NA	NA	16	15	14	15	13	12	12	12	11	12	12	12
Ferrous Metals Processing	77	73	65	58	54	78	56	62	67	75	83	66	71	71	70
Metals Processing NEC	NA	NA	NA	13	14	6	5	6	4	4	4	6	6	6	6
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	240	63	72	124	97	153	121	148	123	117	110	139	143	143	143
Oil & Gas Production	NA	NA	NA	69	47	104	65	68	70	63	58	86	88	88	88
Petroleum Refineries & Related Ind.	240	63	72	55	49	47	52	76	49	49	48	47	48	48	48
Asphalt Manufacturing	NA	NA	NA	1	1	3	4	4	5	5	5	7	7	7	7
<b>OTHER INDUSTRIAL PROCESSES</b>	187	182	205	327	311	378	352	361	370	389	399	438	460	467	470
Agriculture, Food, & Kindred Products	NA	NA	NA	5	5	3	3	3	4	3	6	5	5	5	5
Textiles, Leather, & Apparel Products	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	1
Wood, Pulp & Paper, & Pub. Prod.	18	18	24	73	77	91	88	86	86	89	89	86	89	91	93
Rubber & Miscellaneous Plastic Prod.	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Mineral Products	169	164	181	239	220	270	249	259	267	281	287	331	350	355	356
cement mfg	97	89	98	137	124	151	131	139	143	150	153	200	212	214	213
glass mfg	48	53	60	48	45	59	59	61	64	66	67	69	74	76	78
other	24	23	23	54	51	61	59	60	60	64	66	62	64	65	65
Machinery Products	NA	NA	NA	2	2	3	2	2	3	6	7	2	3	3	3
Electronic Equipment	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	NA	NA	NA	8	7	10	10	10	9	9	10	12	12	12	12
<b>SOLVENT UTILIZATION</b>	NA	NA	NA	2	3	1	2	3	3	3	3	2	3	3	3
Degreasing	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Graphic Arts	NA	NA	NA	0	0	0	1	1	1	1	1	1	1	1	1
Dry Cleaning	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Surface Coating	NA	NA	NA	2	2	1	2	2	2	2	2	2	2	2	2
Other Industrial	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Nonindustrial	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Solvent Utilization NEC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
<b>STORAGE &amp; TRANSPORT</b>	NA	NA	NA	2	2	3	6	5	5	5	6	15	16	16	16
Bulk Terminals & Plants	NA	NA	NA	NA	NA	0	1	1	1	1	1	2	2	2	2
Petroleum & Petroleum Prod. Storage	NA	NA	NA	1	1	2	2	0	0	0	0	7	8	8	8
Petroleum & Petroleum Prod. Trans.	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Service Stations: Stage I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Service Stations: Stage II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Organic Chemical Storage	NA	NA	NA	1	1	0	2	3	3	3	4	4	4	4	4
Organic Chemical Transport	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	NA	NA	NA	0	1	0	0	0	0	0	0	1	2	2	2

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>440</b>	<b>159</b>	<b>111</b>	<b>87</b>	<b>84</b>	<b>91</b>	<b>95</b>	<b>96</b>	<b>123</b>	<b>114</b>	<b>99</b>	<b>101</b>	<b>102</b>	<b>104</b>	<b>91</b>
Incineration	110	56	37	27	31	49	51	51	74	65	53	56	56	57	58
Open Burning	330	103	74	59	52	42	43	43	44	44	44	42	42	43	30
POTW	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
TSDF	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Landfills	NA	NA	NA	0	0	0	0	1	1	1	1	2	2	2	2
Other	NA	NA	NA	0	0	0	1	1	4	3	1	1	1	1	1
<b>Transportation</b>	<b>9,322</b>	<b>11,284</b>	<b>12,150</b>	<b>11,948</b>	<b>12,210</b>	<b>12,014</b>	<b>12,457</b>	<b>12,692</b>	<b>12,902</b>	<b>13,191</b>	<b>13,085</b>	<b>14,211</b>	<b>14,436</b>	<b>14,355</b>	<b>14,105</b>
<b>ON-ROAD VEHICLES</b>	<b>7,390</b>	<b>8,645</b>	<b>8,621</b>	<b>8,089</b>	<b>7,682</b>	<b>7,210</b>	<b>7,557</b>	<b>7,759</b>	<b>7,960</b>	<b>8,176</b>	<b>7,956</b>	<b>8,793</b>	<b>8,924</b>	<b>8,816</b>	<b>8,590</b>
Light-Duty Gas Vehicles & Motorcycles	4,158	4,725	4,421	3,806	3,494	3,013	3,069	3,098	3,117	3,173	3,043	3,006	2,996	2,933	2,859
light-duty gas vehicles	4,156	4,722	4,416	3,797	3,483	3,002	3,058	3,086	3,105	3,161	3,031	2,994	2,983	2,920	2,846
motorcycles	2	3	5	9	11	11	11	12	12	13	12	12	12	12	13
Light-Duty Gas Trucks	1,278	1,461	1,408	1,530	1,386	1,552	1,839	2,004	2,131	2,160	1,991	1,709	1,742	1,703	1,638
light-duty gas trucks 1	725	819	864	926	803	901	1,074	1,171	1,242	1,251	1,183	1,166	1,185	1,157	1,110
light-duty gas trucks 2	553	642	544	603	584	651	766	833	888	909	809	543	557	546	529
Heavy-Duty Gas Vehicles	278	319	300	330	343	306	321	309	316	351	330	518	505	467	459
Diesels	1,676	2,141	2,493	2,423	2,458	2,340	2,328	2,347	2,397	2,492	2,591	3,560	3,680	3,713	3,635
heavy-duty diesel vehicles	1,676	2,118	2,463	2,389	2,416	2,248	2,284	2,302	2,351	2,446	2,544	3,538	3,662	3,698	3,620
light-duty diesel trucks	NA	NA	5	6	7	63	11	11	12	12	13	8	7	6	6
light-duty diesel vehicles	NA	23	25	28	35	28	33	33	33	34	34	14	11	9	8
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>1,931</b>	<b>2,638</b>	<b>3,529</b>	<b>3,859</b>	<b>4,528</b>	<b>4,804</b>	<b>4,900</b>	<b>4,934</b>	<b>4,942</b>	<b>5,015</b>	<b>5,128</b>	<b>5,418</b>	<b>5,512</b>	<b>5,539</b>	<b>5,515</b>
Non-Road Gasoline	85	92	101	108	114	120	121	123	124	126	127	142	160	176	187
recreational	1	1	1	1	1	6	6	6	6	6	6	7	8	8	8
construction	2	3	4	4	4	4	4	4	4	4	4	4	5	6	6
industrial	10	10	13	14	13	12	12	12	11	11	11	14	14	14	13
lawn & garden	26	28	29	31	35	36	37	38	39	40	41	51	61	71	78
farm	3	3	5	5	5	6	6	6	6	6	6	4	4	4	4
light commercial	10	10	11	12	14	15	16	16	17	18	18	22	27	31	34
logging	0	0	0	0	0	0	0	0	0	0	0	3	4	5	5
airport service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
railway maintenance	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
recreational marine vessels	34	36	38	40	41	41	41	41	41	41	41	37	37	37	37
Non-Road Diesel	1,109	1,666	2,125	2,155	2,472	2,513	2,552	2,595	2,640	2,687	2,739	2,746	2,760	2,751	2,707
recreational	0	2	2	2	3	3	3	3	3	3	3	5	5	5	5
construction	436	639	843	943	1,083	1,102	1,120	1,138	1,156	1,174	1,198	1,267	1,273	1,267	1,247
industrial	217	160	193	244	270	268	265	265	268	270	274	240	242	241	237
lawn & garden	9	18	19	22	40	45	50	54	59	64	69	70	76	81	83
farm	350	728	926	755	877	898	917	936	953	970	987	935	934	926	906
light commercial	31	43	44	54	72	77	82	87	91	96	101	109	114	119	123
logging	65	74	94	118	101	94	88	82	79	77	75	79	73	67	61
airport service	2	2	2	3	6	7	7	8	8	9	9	10	10	10	10
railway maintenance	UA	UA	UA	2	3	3	4	4	4	4	4	4	4	4	4
recreational marine vessels	UA	UA	UA	13	16	17	17	18	19	19	20	28	29	30	31
Aircraft	72	85	106	119	138	158	155	156	156	161	165	167	168	174	175

**Table A-4.**National Nitrogen Oxides Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

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**Table A-4.**National Nitrogen Oxides Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Marine Vessels	171	207	467	557	747	943	995	961	917	929	936	970	985	996	1,007
<i>coal</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>diesel</i>	144	175	396	469	628	630	649	621	593	604	615	960	974	984	995
<i>residual oil</i>	26	31	71	87	118	114	115	116	114	115	105	0	0	0	0
<i>gasoline</i>	NA	NA	NA	NA	NA	10	10	9	9	9	10	10	10	11	12
<i>other</i>	NA	NA	NA	NA	NA	190	221	214	201	201	206	0	0	0	0
Railroads	495	589	731	808	923	929	929	946	945	947	990	1,183	1,222	1,215	1,204
Non-Road Other	0	0	0	112	135	141	147	153	159	165	171	210	218	227	235
<i>liquefied petroleum gas</i>	NA	NA	NA	75	98	103	109	115	120	126	132	183	190	199	206
<i>compressed natural gas</i>	NA	NA	NA	37	38	38	38	39	39	39	39	27	28	28	29
<b>Miscellaneous</b>	<b>330</b>	<b>165</b>	<b>248</b>	<b>310</b>	<b>293</b>	<b>369</b>	<b>286</b>	<b>255</b>	<b>241</b>	<b>390</b>	<b>267</b>	<b>416</b>	<b>402</b>	<b>319</b>	<b>320</b>
Agriculture and Forestry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
<i>agricultural livestock</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Other Combustion	330	165	248	310	293	368	285	253	240	388	265	416	402	319	320
Health Services	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0
Cooling Towers	NA	NA	NA	NA	NA	NA	NA	0	NA	0	0	0	0	0	0
Fugitive Dust	NA	NA	NA	NA	NA	1	1	1	1	1	1	0	0	0	0
<b>TOTAL ALL SOURCES</b>	<b>20,928</b>	<b>22,632</b>	<b>24,384</b>	<b>23,198</b>	<b>23,893</b>	<b>24,170</b>	<b>24,338</b>	<b>24,732</b>	<b>25,116</b>	<b>25,474</b>	<b>25,051</b>	<b>26,053</b>	<b>26,352</b>	<b>26,020</b>	<b>25,393</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>722</b>	<b>660</b>	<b>1,050</b>	<b>1,570</b>	<b>1,372</b>	<b>1,005</b>	<b>1,075</b>	<b>1,114</b>	<b>993</b>	<b>989</b>	<b>1,073</b>	<b>1,072</b>	<b>935</b>	<b>858</b>	<b>904</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>30</b>	<b>40</b>	<b>45</b>	<b>32</b>	<b>37</b>	<b>47</b>	<b>44</b>	<b>44</b>	<b>45</b>	<b>45</b>	<b>44</b>	<b>50</b>	<b>52</b>	<b>56</b>	<b>56</b>
Coal	18	22	31	24	27	27	27	27	29	29	29	28	29	29	29
Oil	7	14	9	5	7	6	5	4	4	4	3	3	4	5	5
Gas	5	4	5	2	2	2	2	2	2	2	2	8	8	10	9
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	1	1
Internal Combustion	NA	NA	NA	1	1	12	10	10	10	10	10	10	11	11	11
<b>FUEL COMB. INDUSTRIAL</b>	<b>150</b>	<b>150</b>	<b>157</b>	<b>134</b>	<b>134</b>	<b>182</b>	<b>196</b>	<b>187</b>	<b>186</b>	<b>196</b>	<b>206</b>	<b>179</b>	<b>175</b>	<b>174</b>	<b>178</b>
Coal	4	3	3	7	7	7	6	7	6	8	6	7	7	7	7
Oil	4	5	3	17	16	12	11	12	12	12	12	9	8	8	8
Gas	77	71	62	57	61	58	60	52	51	63	73	59	59	59	60
Other	65	71	89	35	36	51	51	49	51	50	50	35	34	34	35
Internal Combustion	NA	NA	NA	18	15	54	68	66	66	64	65	69	68	67	69
<b>FUEL COMB. OTHER</b>	<b>541</b>	<b>470</b>	<b>848</b>	<b>1,403</b>	<b>1,200</b>	<b>776</b>	<b>835</b>	<b>884</b>	<b>762</b>	<b>748</b>	<b>823</b>	<b>843</b>	<b>708</b>	<b>628</b>	<b>670</b>
Commercial/Institutional Coal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Commercial/Institutional Oil	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3
Commercial/Institutional Gas	6	7	7	6	7	8	8	10	11	11	11	14	14	13	15
Misc. Fuel Comb. (Except Residential)	NA	NA	NA	4	4	8	8	8	9	9	8	9	9	9	10
Residential Wood	460	420	809	1,372	1,169	718	776	822	698	684	759	779	645	569	608
fireplaces	460	420	809	1,372	1,169	718	776	822	698	684	759	680	549	478	512
woodstoves	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41	39	37	39
other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	59	57	54	57
Residential Other	70	38	28	16	15	38	39	40	40	40	41	36	35	33	34
<b>Industrial Processes</b>	<b>14,310</b>	<b>12,081</b>	<b>12,861</b>	<b>10,474</b>	<b>10,755</b>	<b>10,000</b>	<b>10,178</b>	<b>10,380</b>	<b>10,578</b>	<b>10,738</b>	<b>10,780</b>	<b>8,540</b>	<b>8,761</b>	<b>8,304</b>	<b>7,996</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>1,341</b>	<b>1,351</b>	<b>1,595</b>	<b>881</b>	<b>980</b>	<b>634</b>	<b>710</b>	<b>715</b>	<b>701</b>	<b>691</b>	<b>660</b>	<b>387</b>	<b>388</b>	<b>394</b>	<b>395</b>
Organic Chemical Mfg	629	751	884	349	387	192	216	211	215	217	210	131	133	136	138
ethylene oxide mfg	8	9	10	2	2	0	1	1	1	1	1	0	0	0	0
phenol mfg	NA	NA	NA	0	0	4	4	4	4	4	2	2	2	2	2
terephthalic acid mfg	29	46	60	24	27	20	23	17	19	21	17	11	11	11	11
ethylene mfg	70	79	111	28	33	9	11	10	10	9	10	5	5	5	5
charcoal mfg	48	29	40	37	45	33	33	33	33	34	33	30	31	31	32
socmi reactor	81	96	118	43	49	26	30	30	32	33	33	27	28	28	29
socmi distillation	NA	NA	NA	7	7	8	9	8	8	8	8	4	4	4	4
socmi air oxidation processes	NA	NA	NA	0	1	2	2	2	2	2	2	1	1	1	1
socmi fugitives	194	235	254	179	193	61	67	69	70	70	70	40	41	42	42
other	199	257	291	27	30	29	38	37	36	35	34	12	12	12	12
Inorganic Chemical Mfg	65	78	93	3	3	2	3	3	2	2	3	3	3	3	3
Polymer & Resin Mfg	271	299	384	343	389	242	268	283	269	257	222	128	124	126	124
polypropylene mfg	0	0	1	12	13	2	2	2	2	2	2	2	2	2	2
polyethylene mfg	17	18	22	51	57	39	44	45	46	46	35	16	17	17	17
polystyrene resins	10	11	15	6	7	4	5	5	5	5	5	3	3	3	3
synthetic fiber	112	149	199	217	250	144	161	173	157	143	142	78	80	82	83
styrene/butadiene rubber	77	68	70	45	50	15	15	16	17	18	16	11	7	7	7
other	55	54	77	12	13	37	41	42	42	43	22	16	16	16	13
Agricultural Chemical Mfg	NA	NA	NA	11	12	6	7	8	7	6	5	8	8	8	8

**Table A-5.** National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

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Table A-5. National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons)

(continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Paint, Varnish, Lacquer, Enamel Mfg	61	66	65	8	8	14	16	17	18	17	18	7	8	8	8
paint & varnish mfg	61	66	65	8	8	13	15	16	16	16	16	6	6	6	6
other	NA	NA	NA	0	0	1	1	1	1	1	2	2	2	2	2
Pharmaceutical Mfg	40	55	77	43	48	20	21	24	23	24	38	7	7	7	8
Other Chemical Mfg	275	102	92	125	132	158	179	169	166	168	164	104	105	106	107
carbon black mfg	275	102	92	26	26	9	17	16	16	21	24	27	28	28	28
printing ink mfg	NA	NA	NA	2	3	1	1	1	1	2	2	1	1	1	1
fugitives unclassified	NA	NA	NA	12	12	23	23	21	20	27	30	13	13	13	13
carbon black furnace: fugitives	NA	NA	NA	4	5	0	1	1	1	1	1	0	0	0	0
other	NA	NA	NA	81	87	125	136	129	127	117	107	63	64	64	65
<b>METALS PROCESSING</b>	<b>394</b>	<b>336</b>	<b>273</b>	<b>76</b>	<b>74</b>	<b>122</b>	<b>123</b>	<b>124</b>	<b>124</b>	<b>126</b>	<b>125</b>	<b>73</b>	<b>78</b>	<b>78</b>	<b>77</b>
Nonferrous Metals Processing	NA	NA	NA	18	19	18	19	17	18	20	21	19	20	20	20
Ferrous Metals Processing	394	336	273	57	54	98	99	100	98	97	96	44	47	47	46
coke oven door & topside leaks	216	187	152	12	12	19	22	27	27	26	26	5	6	6	6
coke oven by-product plants	NA	NA	NA	3	3	7	9	9	9	9	9	5	5	5	5
other	177	149	121	41	39	71	68	63	62	62	61	35	37	36	36
Metals Processing NEC	NA	NA	NA	1	1	7	6	8	8	8	8	10	11	11	10
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	<b>1,342</b>	<b>1,440</b>	<b>703</b>	<b>639</b>	<b>612</b>	<b>640</b>	<b>632</b>	<b>649</b>	<b>647</b>	<b>642</b>	<b>477</b>	<b>487</b>	<b>485</b>	<b>424</b>	
Oil & Gas Production	411	378	379	107	68	301	301	297	310	305	299	271	274	272	271
Petroleum Refineries & Related Ind.	773	951	1,045	592	568	308	337	332	336	339	339	201	208	208	149
vacuum distillation	24	31	32	15	13	7	7	7	7	7	6	3	3	3	3
cracking units	27	27	21	34	31	15	17	16	15	16	16	16	16	16	16
process unit turnarounds	NA	NA	NA	15	13	11	11	11	11	10	12	2	2	2	2
petroleum refinery fugitives	NA	NA	NA	76	65	99	105	103	109	109	111	84	87	86	27
other	721	893	992	454	446	177	196	195	194	198	194	97	101	101	101
Asphalt Manufacturing	11	13	16	3	3	3	3	3	3	3	4	5	5	5	4
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>270</b>	<b>235</b>	<b>237</b>	<b>390</b>	<b>403</b>	<b>401</b>	<b>391</b>	<b>414</b>	<b>442</b>	<b>438</b>	<b>450</b>	<b>422</b>	<b>438</b>	<b>443</b>	<b>449</b>
Agriculture, Food, & Kindred Products	208	182	191	169	175	138	130	127	146	145	147	104	108	109	111
vegetable oil mfg	59	61	81	46	49	16	18	19	19	16	16	1	1	1	1
whiskey fermentation: aging	105	77	64	24	23	24	16	12	24	24	25	15	16	16	16
bakeries	45	44	46	51	51	43	44	44	46	46	47	41	42	42	43
other	NA	NA	NA	49	52	55	52	51	58	58	60	47	49	50	51
Textiles, Leather, & Apparel Products	NA	NA	NA	10	10	20	18	19	19	19	19	10	10	10	10
Wood, Pulp & Paper, & Publishing Prod.	NA	NA	NA	42	44	96	92	101	112	105	122	154	160	164	167
Rubber & Miscellaneous Plastic Prod.	60	51	44	41	46	58	59	64	62	61	60	49	51	52	52
rubber tire mfg	60	51	44	10	11	5	5	5	5	6	6	6	6	6	6
green tire spray	NA	NA	NA	5	6	3	4	3	3	3	3	2	2	2	2
other	NA	NA	NA	26	29	50	50	55	53	52	51	41	43	44	44
Mineral Products	2	2	2	15	14	18	17	27	28	30	31	31	32	32	32
Machinery Products	NA	NA	NA	4	4	7	8	10	8	11	11	11	12	12	12
Electronic Equipment	NA	NA	NA	0	0	2	2	3	3	3	2	1	1	1	1
Transportation Equipment	NA	NA	NA	1	0	2	2	2	3	3	2	3	4	4	4
Construction	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	NA	NA	NA	108	109	59	62	62	62	62	57	58	60	60	61

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>SOLVENT UTILIZATION</b>	<b>7,174</b>	<b>5,651</b>	<b>6,584</b>	<b>5,699</b>	<b>5,964</b>	<b>5,750</b>	<b>5,782</b>	<b>5,901</b>	<b>6,016</b>	<b>6,162</b>	<b>6,183</b>	<b>5,474</b>	<b>5,621</b>	<b>5,149</b>	<b>4,825</b>
Degreasing	707	448	513	756	757	744	718	737	753	775	789	602	624	372	371
open top	NA	NA	NA	28	29	18	25	26	26	27	24	8	8	4	4
conveyorized	NA	NA	NA	5	4	5	6	6	6	6	5	4	5	2	2
cold cleaning	NA	NA	NA	31	35	30	23	24	24	22	23	22	23	10	11
other	707	448	513	691	689	691	664	680	697	719	737	567	588	356	354
Graphic Arts	319	254	373	317	363	274	301	308	322	333	339	287	293	300	293
letterpress	NA	NA	NA	2	2	4	8	8	8	8	8	6	6	6	6
flexographic	NA	NA	NA	18	20	20	24	26	26	25	24	19	19	20	15
lithographic	NA	NA	NA	4	4	14	17	18	21	22	20	12	12	13	13
gravure	NA	NA	NA	131	150	75	82	81	87	93	91	50	51	52	44
other	319	254	373	162	187	162	171	175	180	185	196	200	205	210	214
Dry Cleaning	263	229	320	169	212	215	218	224	225	228	230	154	163	166	168
perchloroethylene	NA	NA	NA	85	107	110	112	115	116	117	118	58	61	63	63
petroleum solvent	NA	NA	NA	84	105	104	106	109	110	111	112	89	94	96	97
other	263	229	320	0	0	0	0	0	0	0	0	1	7	8	8
Surface Coating	3,570	2,977	3,685	2,549	2,635	2,523	2,521	2,577	2,632	2,716	2,681	2,373	2,456	2,193	2,136
industrial adhesives	52	41	55	381	375	390	374	386	400	419	410	351	366	147	148
fabrics	161	177	186	34	35	14	14	16	16	15	15	10	10	10	10
paper	652	548	626	106	114	75	64	61	59	59	52	48	49	50	51
large appliances	49	43	36	22	18	21	20	20	21	22	21	23	24	23	22
magnet wire	7	6	5	0	0	1	1	1	1	1	1	2	2	2	2
autos & light trucks	165	204	165	85	87	92	90	93	92	96	96	94	100	102	106
metal cans	49	57	73	97	95	94	91	93	96	98	102	99	106	109	113
metal coil	18	19	21	50	50	45	49	47	49	48	47	45	47	48	49
wood furniture	211	231	231	132	140	158	154	159	171	185	179	175	185	127	130
metal furniture	35	42	52	41	44	48	47	49	52	56	53	52	54	56	58
flatwood products	64	76	82	4	4	9	10	10	11	12	13	16	17	17	18
plastic parts	17	18	25	11	11	27	22	23	22	22	18	15	16	16	16
large ships	21	20	20	15	15	15	14	15	15	15	13	17	18	18	19
aircraft	1	1	2	27	34	7	7	7	7	7	6	11	11	12	5
misc. metal parts	NA	NA	NA	14	14	59	87	90	92	93	92	38	40	40	40
steel drums	NA	NA	NA	NA	NA	3	3	3	3	4	4	4	4	4	4
architectural	442	407	477	473	500	495	500	505	510	515	522	480	485	487	483
traffic markings	NA	NA	NA	100	106	105	106	107	108	109	111	93	94	94	93
maintenance coatings	108	125	106	79	80	79	76	78	81	85	84	80	83	84	85
railroad	5	7	9	4	3	3	3	3	3	4	4	3	3	3	4
auto refinishing	83	143	186	111	132	130	132	137	140	144	142	161	163	163	104
machinery	39	51	62	37	28	28	26	26	27	27	25	25	25	22	20
electronic & other electrical	NA	NA	NA	79	79	78	75	77	80	85	85	78	82	82	82
general	79	61	52	146	154	121	127	129	133	140	138	100	105	106	107
miscellaneous	942	392	799	104	103	32	37	42	39	38	35	30	31	32	32
thinning solvents	NA	NA	NA	90	96	96	97	100	94	96	99	51	53	54	54
other	372	309	415	306	317	297	295	302	310	321	314	273	280	282	282

NATIONAL AIR QUALITY AND EMISSIONS TRENDS REPORT, 1999  
**Table A-5.** National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

(continued)

**Table A-5.** National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

(continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Other Industrial	640	499	690	125	131	94	98	102	102	99	96	106	110	111	113
miscellaneous	39	30	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
rubber & plastics mfg	309	245	327	25	29	28	28	28	29	31	31	38	40	40	40
other	292	224	319	100	102	66	71	74	73	68	64	68	70	71	72
Nonindustrial	1,674	1,243	1,002	1,783	1,867	1,900	1,925	1,952	1,982	2,011	2,048	1,949	1,973	2,004	1,743
cutback asphalt	1,045	723	323	191	199	199	202	207	214	221	227	135	140	144	147
other asphalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43	44	45	46
pesticide application	241	195	241	212	260	258	264	272	280	289	299	388	393	408	412
adhesives	NA	NA	NA	345	353	361	365	368	372	375	380	301	304	307	250
consumer solvents	NA	NA	NA	1,035	1,056	1,083	1,095	1,105	1,116	1,126	1,142	1,076	1,085	1,095	883
other	387	325	437	NA	NA	NA	NA	NA	NA	NA	NA	6	6	6	5
Other	NA	NA	NA	NA	NA	0	NA	NA	0	0	0	3	3	3	2
<b>STORAGE &amp; TRANSPORT</b>	<b>1,954</b>	<b>2,181</b>	<b>1,975</b>	<b>1,747</b>	<b>1,753</b>	<b>1,495</b>	<b>1,532</b>	<b>1,583</b>	<b>1,600</b>	<b>1,629</b>	<b>1,652</b>	<b>1,289</b>	<b>1,327</b>	<b>1,327</b>	<b>1,240</b>
Bulk Terminals & Plants	599	668	517	606	651	359	369	384	395	403	406	208	215	214	203
fixed roof	14	15	12	14	15	9	11	12	13	16	16	6	6	6	6
floating roof	45	50	39	46	50	26	29	30	34	29	19	11	11	11	11
variable vapor space	1	1	1	1	2	2	1	1	1	0	0	0	0	0	0
efr with seals	NA	NA	NA	NA	NA	2	3	3	4	4	3	2	2	2	2
ifr with seals	NA	NA	NA	NA	NA	2	2	3	5	3	3	3	3	3	3
underground tanks	NA	0	0	0	0	1	2	2	2	2	2	2	2	2	2
area source: gasoline	509	569	440	512	553	282	281	292	292	305	322	163	167	167	157
other	30	33	26	32	33	36	40	42	44	43	41	21	22	22	22
Petroleum & Petroleum Product Stor.	300	315	306	223	210	157	195	204	205	194	191	181	187	187	108
fixed roof gasoline	47	52	43	26	23	13	17	17	16	16	16	14	14	14	1
fixed roof crude	135	141	148	26	21	21	25	26	28	24	21	25	26	25	10
floating roof gasoline	49	54	45	27	24	15	25	24	24	22	22	16	16	16	11
floating roof crude	32	34	36	5	5	2	7	7	8	6	6	5	6	6	2
efr / seal gasoline	3	4	3	2	2	7	11	13	14	14	15	9	9	9	9
efr / seal crude	1	2	2	0	0	3	3	3	3	3	2	3	3	4	3
ifr / seal gasoline	1	2	1	1	1	1	2	2	2	2	2	3	3	3	3
ifr / seal crude	2	2	2	0	0	0	0	0	0	0	0	1	1	1	1
variable vapor space gasoline	3	3	3	1	2	1	2	5	6	3	0	0	0	0	0
area source: crude	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
other	25	22	23	133	132	92	102	106	103	103	106	104	108	108	68
Petroleum & Petroleum Product Trans.t	92	84	61	126	125	151	146	149	142	139	134	115	119	119	120
gasoline loading: normal / splash	3	2	0	3	3	3	2	2	2	3	2	3	3	3	3
gasoline loading: balanced / submerged	20	13	2	21	22	15	17	15	13	11	10	7	7	7	7
gasoline loading: normal / submerged	39	26	3	41	42	26	25	26	24	25	23	13	14	13	14
gasoline loading: clean / submerged	2	1	0	2	2	0	0	0	0	0	0	0	0	0	0
marine vessel loading: gasoline & crude	26	38	50	24	22	31	30	30	29	28	29	31	32	33	34
other	2	4	6	35	35	76	73	75	73	72	70	61	62	62	62
Service Stations: Stage I	416	481	461	207	223	300	295	303	309	322	334	310	318	318	320
Service Stations: Stage II	521	602	583	485	441	433	430	442	449	467	484	399	410	410	412
Service Stations: Breathing & Emptying	NA	NA	NA	49	52	52	51	52	53	55	57	43	45	45	45
Organic Chemical Storage	26	31	46	34	36	30	35	38	39	39	37	26	26	27	25
Organic Chemical Transport	NA	NA	NA	17	15	10	8	8	7	7	7	5	5	5	5
Inorganic Chemical Storage	NA	NA	NA	0	0	0	1	1	1	1	1	1	1	1	1
Inorganic Chemical Transport	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	NA	NA	NA	0	0	2	2	2	1	1	1	1	1	1	1
Bulk Materials Transport	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>1,984</b>	<b>984</b>	<b>758</b>	<b>979</b>	<b>941</b>	<b>986</b>	<b>999</b>	<b>1,010</b>	<b>1,046</b>	<b>1,046</b>	<b>1,067</b>	<b>418</b>	<b>422</b>	<b>428</b>	<b>586</b>
Incineration	548	453	366	64	59	48	50	51	76	65	54	50	50	51	51
Open Burning	1,424	517	372	309	274	196	200	203	207	208	208	195	198	200	356
<i>industrial</i>	NA	NA	NA	6	6	4	4	4	5	5	5	5	5	5	0
<i>commercial/institutional</i>	NA	NA	NA	1	2	9	9	10	10	10	10	18	19	19	0
<i>residential</i>	NA	NA	NA	302	266	165	167	169	171	172	173	163	165	166	149
<i>other</i>	1,424	517	372	NA	NA	19	20	20	21	21	20	9	10	10	207
POTW	NA	NA	NA	10	11	49	47	48	50	52	51	48	48	49	50
Industrial Waste Water	NA	NA	NA	1	2	14	18	19	19	19	16	19	20	20	21
TSDF	NA	NA	NA	594	595	589	591	589	588	587	628	41	41	42	42
Landfills	NA	NA	NA	0	0	64	66	69	74	80	75	35	35	36	36
Other	11	14	20	0	0	26	28	31	33	35	36	29	29	30	30
<b>Transportation</b>	<b>14,849</b>	<b>12,623</b>	<b>11,291</b>	<b>11,818</b>	<b>9,744</b>	<b>8,988</b>	<b>9,240</b>	<b>8,882</b>	<b>8,973</b>	<b>9,235</b>	<b>8,515</b>	<b>9,099</b>	<b>8,844</b>	<b>8,738</b>	<b>8,529</b>
<b>ON-ROAD VEHICLES</b>	<b>12,972</b>	<b>10,545</b>	<b>8,979</b>	<b>9,376</b>	<b>7,192</b>	<b>6,443</b>	<b>6,660</b>	<b>6,289</b>	<b>6,348</b>	<b>6,563</b>	<b>5,816</b>	<b>5,541</b>	<b>5,438</b>	<b>5,439</b>	<b>5,297</b>
Light-Duty Gas Vehicles & Motorcycles	9,193	7,248	5,907	5,864	4,462	3,692	3,608	3,288	3,232	3,332	3,029	2,911	2,878	2,935	2,911
<i>light-duty gas vehicles</i>	9,133	7,177	5,843	5,810	4,412	3,635	3,571	3,256	3,198	3,295	2,991	2,875	2,842	2,895	2,870
<i>motorcycles</i>	60	71	64	54	50	56	36	33	34	37	38	36	36	39	42
Light-Duty Gas Trucks	2,770	2,289	2,059	2,425	1,867	2,016	2,318	2,347	2,471	2,488	2,135	1,786	1,789	1,788	1,722
<i>light-duty gas trucks 1</i>	1,564	1,251	1,229	1,437	1,018	1,103	1,245	1,255	1,313	1,307	1,172	1,157	1,164	1,171	1,132
<i>light-duty gas trucks 2</i>	1,206	1,038	830	988	849	912	1,073	1,092	1,157	1,181	963	629	624	617	589
Heavy-Duty Gas Vehicles	743	657	611	716	517	405	416	335	327	414	325	488	439	400	375
Diesels	266	351	402	370	346	331	318	318	318	330	326	356	332	316	289
<i>heavy-duty diesel vehicles</i>	266	335	392	360	332	298	303	302	302	313	309	348	325	311	284
<i>light-duty diesel trucks</i>	NA	NA	2	2	3	24	4	5	5	5	5	4	3	3	2
<i>light-duty diesel vehicles</i>	NA	15	8	8	11	9	11	11	11	12	12	5	4	3	3
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>1,878</b>	<b>2,078</b>	<b>2,312</b>	<b>2,442</b>	<b>2,552</b>	<b>2,545</b>	<b>2,581</b>	<b>2,594</b>	<b>2,624</b>	<b>2,672</b>	<b>2,699</b>	<b>3,558</b>	<b>3,406</b>	<b>3,299</b>	<b>3,232</b>
Non-Road Gasoline	1,564	1,669	1,787	1,886	1,907	1,889	1,920	1,925	1,957	1,991	2,021	2,888	2,738	2,637	2,593
<i>recreational</i>	138	145	151	156	160	128	130	132	133	135	138	189	186	185	185
<i>construction</i>	27	29	39	45	44	44	44	44	44	44	44	68	59	54	51
<i>industrial</i>	25	27	33	37	33	33	32	31	30	29	28	42	34	32	30
<i>lawn &amp; garden</i>	511	547	583	616	682	700	718	734	752	771	789	1,047	971	888	845
<i>farm</i>	10	14	17	19	20	20	21	21	21	22	22	17	17	16	15
<i>light commercial</i>	115	121	127	137	164	171	179	185	192	200	207	233	204	182	172
<i>logging</i>	2	4	5	5	8	9	9	10	11	11	12	372	344	351	369
<i>airport service</i>	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0
<i>railway maintenance</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<i>recreational marine vessels</i>	736	782	830	869	793	784	787	768	772	778	779	917	924	929	924
Non-Road Diesel	187	257	327	332	384	390	397	403	408	414	420	412	406	395	372
<i>recreational</i>	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>construction</i>	94	103	135	151	176	181	185	190	194	199	204	207	205	198	185
<i>industrial</i>	38	23	28	36	40	40	41	41	42	42	43	41	41	41	39
<i>lawn &amp; garden</i>	3	4	4	5	9	10	11	12	13	14	14	15	16	17	17
<i>farm</i>	39	109	138	113	127	126	126	125	124	123	121	107	104	101	94
<i>light commercial</i>	7	8	8	10	13	13	14	14	15	16	16	18	19	20	20
<i>logging</i>	6	9	11	14	14	14	15	15	15	14	14	15	13	10	8
<i>airport service</i>	0	0	0	1	1	1	1	2	2	2	2	2	2	2	2
<i>railway maintenance</i>	UA	UA	UA	1	1	1	1	1	1	1	1	1	1	1	1
<i>recreational marine vessels</i>	UA	UA	UA	2	3	3	3	3	3	3	3	4	4	5	5

**Table A-5.** National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

(continued)

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Table A-5. National Volatile Organic Compounds Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons)

(continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Aircraft	97	116	146	165	190	180	177	179	176	176	178	177	178	183	183
Marine Vessels	7	8	19	22	30	32	34	33	32	43	32	33	33	34	34
coal	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1
diesel	6	8	17	20	27	21	22	21	20	27	20	32	32	32	33
residual oil	0	1	1	1	2	3	3	3	3	4	3	0	0	0	0
gasoline	NA	NA	NA	NA	NA	1	1	1	1	1	1	1	1	1	1
other	NA	NA	NA	NA	NA	7	8	8	8	11	8	0	0	0	0
Railroads	22	27	33	37	42	52	52	54	52	49	49	48	50	50	49
Non-Road Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
liquefied petroleum gas	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
compressed natural gas	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<b>Miscellaneous</b>	<b>1,101</b>	<b>716</b>	<b>1,134</b>	<b>566</b>	<b>642</b>	<b>1,059</b>	<b>756</b>	<b>486</b>	<b>556</b>	<b>720</b>	<b>551</b>	<b>753</b>	<b>1,192</b>	<b>714</b>	<b>716</b>
Agriculture & Forestry	NA	NA	NA	NA	NA	5	6	6	6	6	7	7	7	7	8
Other Combustion	1,101	716	1,134	565	641	1,049	743	474	544	707	537	740	1,179	700	702
structural fires	19	47	40	44	44	14	14	15	15	15	15	14	14	15	15
agricultural fires	131	75	70	55	79	48	48	49	48	51	54	51	52	52	53
slash/prescribed burning	147	290	285	182	182	234	239	243	266	259	293	277	293	311	311
forest wildfires	770	297	739	283	335	749	439	164	212	379	171	395	817	319	319
other	34	7	1	NA	NA	3	3	3	3	3	3	3	3	3	3
Catastrophic/Accidental Releases	NA	NA	NA	NA	NA	4	4	4	4	4	4	4	5	5	5
Health Services	NA	NA	NA	0	1	1	0	1	1	1	1	0	1	1	1
Cooling Towers	NA	NA	NA	NA	NA	0	2	2	1	2	2	1	1	1	1
Fugitive Dust	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
<b>TOTAL AVAILABLE SOURCES</b>	<b>30,982</b>	<b>26,079</b>	<b>26,336</b>	<b>24,428</b>	<b>22,513</b>	<b>21,053</b>	<b>21,249</b>	<b>20,862</b>	<b>21,099</b>	<b>21,683</b>	<b>20,918</b>	<b>19,464</b>	<b>19,732</b>	<b>18,614</b>	<b>18,145</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>2872</b>	<b>2247</b>	<b>2445</b>	<b>1,536</b>	<b>1,382</b>	<b>1,196</b>	<b>1,147</b>	<b>1,183</b>	<b>1,124</b>	<b>1,113</b>	<b>1,179</b>	<b>1,160</b>	<b>1,076</b>	<b>996</b>	<b>1,029</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>1,775</b>	<b>1,191</b>	<b>879</b>	<b>280</b>	<b>271</b>	<b>295</b>	<b>257</b>	<b>257</b>	<b>279</b>	<b>273</b>	<b>268</b>	<b>289</b>	<b>294</b>	<b>229</b>	<b>225</b>
Coal	1,680	1,091	796	268	255	265	232	234	253	246	244	264	268	197	194
bituminous	1,041	661	483	217	193	188	169	167	185	181	174	195	196	134	131
subbituminous	513	326	238	35	39	37	39	43	46	44	48	51	51	47	46
anthracite & lignite	126	104	75	16	22	41	23	23	22	21	21	19	21	17	17
other	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA	0	0	0	0
Oil	89	93	76	8	12	9	10	7	9	8	5	6	7	5	5
residual	85	87	74	8	11	9	10	7	9	8	5	6	7	5	5
distillate	3	6	2	0	0	0	0	0	0	0	0	0	0	0	0
Gas	7	6	7	1	1	1	0	0	1	1	1	1	1	1	1
Other	0	0	0	0	0	0	0	0	0	0	0	1	1	7	7
Internal Combustion	NA	NA	NA	3	3	20	15	16	17	17	18	17	18	18	19
<b>FUEL COMB. INDUSTRIAL</b>	<b>641</b>	<b>564</b>	<b>679</b>	<b>247</b>	<b>243</b>	<b>270</b>	<b>233</b>	<b>243</b>	<b>257</b>	<b>270</b>	<b>302</b>	<b>239</b>	<b>233</b>	<b>230</b>	<b>236</b>
Coal	83	23	18	71	70	84	72	74	71	70	70	73	73	71	74
bituminous	52	14	12	48	49	59	48	53	51	49	49	43	43	42	44
subbituminous	16	4	4	1	1	5	3	3	3	5	5	5	5	5	5
anthracite & lignite	15	4	2	7	6	2	1	1	1	1	1	1	1	1	1
other	NA	NA	NA	15	14	19	19	17	16	16	15	24	23	23	23
Oil	89	69	67	52	48	52	44	45	45	44	49	46	43	42	43
residual	83	62	63	43	39	44	36	37	38	37	42	38	35	34	35
distillate	6	7	4	5	5	6	6	6	6	6	6	7	7	7	7
other	0	0	0	4	4	2	2	1	1	1	1	1	1	1	1
Gas	27	25	23	47	44	41	34	40	43	43	45	42	42	42	43
natural	24	22	20	24	24	30	24	26	29	30	30	28	27	27	28
process	4	3	3	22	20	11	10	13	13	14	15	14	15	15	14
other	NA	NA	NA	1	1	0	0	0	0	0	0	0	0	0	0
Other	441	447	571	75	78	87	72	74	86	74	73	61	58	59	60
wood/bark waste	415	444	566	67	71	80	67	67	71	68	68	54	51	52	53
liquid waste	NA	NA	NA	1	1	1	1	1	1	1	1	1	1	1	1
other	26	3	5	6	6	6	5	6	14	6	5	7	6	6	6
Internal Combustion	NA	NA	NA	3	3	6	10	11	12	38	64	17	17	16	17
<b>FUEL COMB. OTHER</b>	<b>455</b>	<b>492</b>	<b>887</b>	<b>1,009</b>	<b>869</b>	<b>631</b>	<b>657</b>	<b>683</b>	<b>588</b>	<b>570</b>	<b>610</b>	<b>632</b>	<b>549</b>	<b>537</b>	<b>568</b>
Commercial/Institutional Coal	13	10	8	13	13	15	14	15	15	15	16	16	16	17	17
Commercial/Institutional Oil	52	34	30	12	13	13	11	12	11	12	12	12	12	10	9
Commercial/Institutional Gas	4	4	4	4	5	5	6	6	6	7	6	8	8	7	8
Misc. Fuel Comb. (Except Residential)	NA	NA	3	3	79	73	73	72	73	73	72	76	79	81	
Residential Wood	384	407	818	959	817	501	535	558	464	446	484	503	415	403	431
fireplaces	384	407	818	959	817	501	535	558	464	446	484	429	344	335	359
woodstoves	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38	36	34	36
other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37	35	33	35
Residential Other	3	37	27	18	18	18	18	18	18	18	18	23	22	21	22

**Table A-6.**National PM<sub>10</sub> Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons)

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**Table A-6.**National PM<sub>10</sub> Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Industrial Processes</b>	<b>8,668</b>	<b>4,075</b>	<b>3,026</b>	<b>1339</b>	<b>1276</b>	<b>1306</b>	<b>1264</b>	<b>1269</b>	<b>1240</b>	<b>1219</b>	<b>1231</b>	<b>951</b>	<b>977</b>	<b>983</b>	<b>1263</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>235</b>	<b>127</b>	<b>148</b>	<b>58</b>	<b>63</b>	<b>77</b>	<b>68</b>	<b>71</b>	<b>66</b>	<b>76</b>	<b>67</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>
Organic Chemical Mfg	43	21	19	19	22	26	28	28	28	29	29	29	29	30	30
Inorganic Chemical Mfg	61	31	25	7	8	19	4	5	5	5	5	4	4	4	4
Polymer & Resin Mfg	NA	NA	NA	4	5	5	4	5	4	4	4	3	3	3	3
Agricultural Chemical Mfg	46	38	61	9	10	11	11	11	11	10	10	8	9	9	9
Paint, Varnish, Lacquer, Enamel Mfg	NA	NA	NA	0	0	1	1	1	1	1	1	1	1	1	1
Pharmaceutical Mfg	NA	NA	NA	0	0	1	0	0	0	0	0	0	0	0	0
Other Chemical Mfg	86	37	42	18	18	14	20	20	18	27	18	19	19	19	19
<b>METALS PROCESSING</b>	<b>1,316</b>	<b>825</b>	<b>622</b>	<b>220</b>	<b>211</b>	<b>214</b>	<b>251</b>	<b>250</b>	<b>181</b>	<b>184</b>	<b>212</b>	<b>144</b>	<b>151</b>	<b>150</b>	<b>147</b>
Nonferrous Metals Processing	593	229	130	46	45	50	46	47	40	39	41	34	35	35	35
copper	343	66	32	3	3	14	14	15	12	11	12	6	6	6	6
lead	53	31	18	4	3	3	2	2	2	2	3	2	2	2	2
zinc	20	11	3	3	3	6	6	6	1	2	2	2	2	2	2
other	177	121	77	36	36	27	23	23	25	25	25	24	25	25	25
Ferrous Metals Processing	198	275	322	164	156	155	123	115	121	125	149	91	96	95	93
primary	31	198	271	136	129	128	99	92	97	100	123	64	68	68	67
secondary	167	77	51	26	26	25	24	23	24	25	26	27	28	27	26
other	NA	NA	NA	2	2	2	0	0	0	0	0	0	0	0	0
Metals Processing NEC	525	321	170	10	10	9	82	88	20	20	22	19	20	20	19
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	<b>286</b>	<b>179</b>	<b>138</b>	<b>63</b>	<b>58</b>	<b>55</b>	<b>43</b>	<b>43</b>	<b>38</b>	<b>38</b>	<b>40</b>	<b>29</b>	<b>30</b>	<b>30</b>	<b>29</b>
Oil & Gas Production	NA	NA	NA	0	0	2	2	2	2	2	2	1	1	1	1
Petroleum Refineries & Related Ind.	69	56	41	28	24	20	20	21	20	19	20	17	17	17	17
fluid catalytic cracking units	69	56	41	24	21	17	17	18	17	16	18	12	12	12	12
other	NA	NA	NA	4	3	3	3	3	3	3	3	5	5	5	5
Asphalt Manufacturing	217	123	97	35	34	33	21	20	17	17	18	12	12	11	11
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>5,832</b>	<b>2,572</b>	<b>1,846</b>	<b>611</b>	<b>591</b>	<b>583</b>	<b>520</b>	<b>506</b>	<b>501</b>	<b>495</b>	<b>511</b>	<b>325</b>	<b>336</b>	<b>338</b>	<b>343</b>
Agriculture, Food, & Kindred Products	485	429	402	68	72	73	80	69	73	73	80	59	61	59	61
country elevators	257	247	258	7	9	9	10	10	10	9	9	5	5	5	5
terminal elevators	147	111	86	6	6	6	7	8	8	7	7	2	2	2	2
feed mills	5	3	3	6	7	7	4	5	5	5	5	3	3	3	3
soybean mills	25	27	22	13	14	14	15	11	12	12	12	7	7	7	7
wheat mills	5	1	1	3	3	3	4	4	4	4	4	2	2	2	2
other grain mills	9	8	6	7	8	8	6	5	6	6	7	5	5	5	5
other	38	32	26	25	25	25	34	26	28	30	37	36	37	34	36
Textiles, Leather, & Apparel Products	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	1
Wood, Pulp & Paper, & Pub. Prod.	727	274	183	101	106	105	81	79	78	76	81	75	77	79	80
sulfate (kraft) pulping	668	228	142	71	74	73	53	50	49	50	53	38	40	40	41
other	59	46	41	30	33	32	27	29	29	26	28	37	38	39	39
Rubber & Miscellaneous Plastic Prod.	NA	NA	NA	3	4	4	4	4	3	3	3	4	4	4	4
Mineral Products	4,620	1,869	1,261	401	374	367	320	318	316	313	317	160	166	167	168
cement mfg	1,731	703	417	213	193	190	147	145	140	139	140	23	24	25	24
surface mining	134	111	127	20	15	15	14	15	17	17	17	16	17	17	17
stone quarrying/processing	957	508	421	52	54	54	59	60	60	58	58	23	24	24	24
other	1,798	547	296	116	111	108	99	98	99	100	102	97	101	102	103
Machinery Products	NA	NA	NA	8	9	9	8	9	7	7	5	5	5	5	5
Electronic Equipment	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	1
Transportation Equipment	NA	NA	NA	2	2	2	2	2	0	0	0	0	0	0	0
Construction	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	NA	NA	NA	28	23	23	25	24	22	22	23	21	21	21	22

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>SOLVENT UTILIZATION</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>6</b>	6	6	6	6	6	6
Degreasing	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Graphic Arts	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	0
Dry Cleaning	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Surface Coating	NA	NA	NA	2	2	3	4	4	5	5	5	4	5	5	5
Other Industrial	NA	NA	NA	0	0	1	1	1	1	1	1	0	0	0	0
Nonindustrial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Solvent Utilization NEC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
<b>STORAGE &amp; TRANSPORT</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>107</b>	<b>101</b>	<b>102</b>	<b>101</b>	<b>117</b>	<b>114</b>	<b>106</b>	<b>109</b>	<b>81</b>	<b>83</b>	<b>84</b>	<b>85</b>
Bulk Terminals & Plants	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum & Petroleum Prod. Storage	NA	NA	NA	0	0	0	1	1	1	0	0	1	1	1	1
Petroleum & Petroleum Prod. Trans.	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Service Stations: Stage II	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0
Organic Chemical Storage	NA	NA	NA	1	1	1	1	1	1	1	1	1	1	1	1
Organic Chemical Transport	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	NA	NA	NA	0	0	1	1	1	1	1	1	0	0	1	1
Inorganic Chemical Transport	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	NA	NA	NA	105	99	100	99	115	111	104	107	78	80	81	82
storage	NA	NA	NA	33	31	31	27	30	32	31	30	26	26	27	27
transfer	NA	NA	NA	72	67	69	71	85	79	73	76	51	53	54	54
combined	NA	NA	NA	1	1	1	0	0	0	0	0	0	0	0	0
other	NA	NA	NA	NA	NA	NA	0	0	NA	0	0	0	0	0	0
Bulk Materials Transport	NA	NA	NA	0	0	1	0	0	0	0	0	0	0	0	0
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>999</b>	<b>371</b>	<b>273</b>	<b>278</b>	<b>251</b>	<b>271</b>	<b>276</b>	<b>278</b>	<b>334</b>	<b>313</b>	<b>287</b>	<b>303</b>	<b>307</b>	<b>310</b>	<b>587</b>
Incineration	229	95	75	52	50	65	66	65	119	96	69	89	90	91	92
residential	51	49	42	39	35	39	41	43	44	45	45	62	63	63	63
other	178	46	32	13	15	26	25	23	74	52	25	26	27	28	28
Open Burning	770	276	198	225	200	206	209	211	214	216	217	211	214	216	492
residential	770	276	198	221	195	195	197	199	202	203	204	194	195	197	188
other	NA	NA	NA	4	5	11	12	12	13	13	13	18	18	19	303
POTW	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	NA	NA	NA	0	0	NA	0	0	0	0	0	0	0	0	0
TSDF	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Landfills	NA	NA	NA	0	0	0	0	1	1	1	0	3	3	3	3
Other	NA	NA	NA	0	0	0	0	0	0	1	1	1	1	1	1
<b>Transportation</b>	<b>786</b>	<b>786</b>	<b>786</b>	<b>786</b>	<b>844</b>	<b>838</b>	<b>842</b>	<b>839</b>	<b>810</b>	<b>804</b>	<b>756</b>	<b>818</b>	<b>801</b>	<b>779</b>	<b>753</b>
<b>ON-ROAD VEHICLES</b>	<b>443</b>	<b>471</b>	<b>397</b>	<b>363</b>	<b>367</b>	<b>349</b>	<b>353</b>	<b>349</b>	<b>327</b>	<b>324</b>	<b>300</b>	<b>345</b>	<b>331</b>	<b>312</b>	<b>295</b>
Light-Duty Gas Vehicles & Motorcycles	225	207	120	77	65	57	56	55	55	55	55	56	57	58	59
light-duty gas vehicles	224	206	119	77	64	57	55	54	55	54	55	56	56	58	58
motorcycles	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Light-Duty Gas Trucks	70	72	55	43	34	37	44	47	46	46	41	35	36	36	36
light-duty gas trucks 1	41	39	25	19	16	18	21	22	22	22	23	23	24	24	25
light-duty gas trucks 2	29	34	29	24	19	19	23	25	24	24	19	12	12	12	11
Heavy-Duty Gas Vehicles	13	15	15	14	11	10	10	9	10	10	9	14	13	12	12
Diesels	136	177	208	229	257	245	243	238	215	213	194	239	225	206	189
heavy-duty diesel vehicles	136	166	194	219	247	225	233	228	206	204	185	235	221	203	186
light-duty diesel trucks	NA	NA	2	1	2	13	2	3	2	2	2	2	1	1	1
light-duty diesel vehicles	NA	10	12	8	9	7	8	8	7	7	7	3	2	2	1

**Table A-6.**National PM<sub>10</sub> Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

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**Table A-6.**National PM<sub>10</sub> Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons) (continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>220</b>	<b>310</b>	<b>398</b>	<b>424</b>	<b>477</b>	<b>489</b>	<b>489</b>	<b>490</b>	<b>483</b>	<b>480</b>	<b>456</b>	<b>473</b>	<b>470</b>	<b>467</b>	<b>458</b>
Non-Road Gasoline	12	39	42	44	46	47	47	48	48	48	49	86	87	88	89
<i>recreational</i>	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<i>construction</i>	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2
<i>industrial</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>lawn &amp; garden</i>	8	8	9	9	10	11	11	11	12	12	12	21	21	20	20
<i>farm</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>light commercial</i>	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
<i>logging</i>	0	0	0	0	0	0	0	0	0	0	0	19	20	22	23
<i>airport service</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>railway maintenance</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<i>recreational marine vessels (other)</i>	UA	26	28	29	30	30	30	30	30	30	30	38	38	39	39
Non-Road Diesel	154	204	263	272	302	301	299	297	296	296	296	273	268	263	253
<i>recreational</i>	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
<i>construction</i>	75	92	123	134	149	149	148	147	147	146	146	142	139	135	128
<i>industrial</i>	36	23	27	35	38	38	37	37	38	38	38	33	33	33	33
<i>lawn &amp; garden</i>	3	3	4	4	8	8	9	10	11	11	12	11	11	12	12
<i>farm</i>	16	66	85	70	78	78	77	76	75	74	73	62	59	57	54
<i>light commercial</i>	6	7	7	9	11	12	12	12	13	13	14	13	14	14	15
<i>logging</i>	17	12	16	19	15	13	11	10	9	9	8	8	7	7	6
<i>airport service</i>	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
<i>railway maintenance</i>	NA	UA	UA	0	1	1	1	1	1	1	1	1	1	1	1
<i>recreational marine vessels</i>	NA	UA	UA	1	1	1	1	1	1	2	2	2	2	2	2
Aircraft	21	26	33	37	43	44	44	45	43	41	40	40	39	39	38
Marine Vessels	9	10	23	28	38	44	46	45	43	44	43	44	44	45	46
<i>coal</i>	1	1	2	2	3	3	3	3	3	3	3	3	3	3	3
<i>diesel</i>	5	6	15	17	23	27	28	27	26	26	26	40	41	41	42
<i>residual oil</i>	3	3	7	9	12	14	14	14	14	14	13	0	0	0	0
<i>gasoline</i>	NA	NA	NA	NA	NA	1	1	1	1	1	1	1	1	1	1
Railroads	25	30	37	41	47	53	53	54	52	50	27	29	30	30	30
Non-Road Other	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2
<i>liquefied petroleum gas</i>	NA	NA	NA	1	1	1	1	1	1	1	1	1	1	1	1
<i>compressed natural gas</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ALL SOURCES</b>	<b>12,325</b>	<b>7,108</b>	<b>6,258</b>	<b>3,662</b>	<b>3,502</b>	<b>3,340</b>	<b>3,253</b>	<b>3,292</b>	<b>3,174</b>	<b>3,136</b>	<b>3,165</b>	<b>2,929</b>	<b>2,854</b>	<b>2,758</b>	<b>3,045</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Miscellaneous</b>	<b>839</b>	<b>569</b>	<b>852</b>	<b>37,736</b>	<b>37,461</b>	<b>24,541</b>	<b>24,233</b>	<b>23,958</b>	<b>24,328</b>	<b>25,620</b>	<b>22,765</b>	<b>21,761</b>	<b>23,046</b>	<b>23,282</b>	<b>20,634</b>
Agriculture & Forestry	NA	NA	NA	7,108	7,320	5,292	5,234	5,017	4,575	4,845	4,902	4,911	4,952	4,951	4,888
<i>agricultural crops</i>	NA	NA	NA	6,833	6,923	4,745	4,684	4,464	4,016	4,281	4,334	4,330	4,373	4,366	4,298
<i>agricultural livestock</i>	NA	NA	NA	275	396	547	550	553	558	564	569	581	579	585	590
Other Combustion	839	569	852	894	912	1,181	924	770	801	1,053	850	1,152	1,300	1,005	1,007
<i>wildfires</i>	385	206	514	308	300	601	332	171	152	424	145	502	599	261	261
<i>managed burning</i>	390	325	315	527	553	558	569	576	625	606	680	631	680	723	725
<i>other</i>	64	37	23	59	59	22	23	23	23	24	24	20	21	21	21
Cooling Towers	NA	NA	NA	NA	NA	0	0	0	0	0	1	3	3	3	3
Fugitive Dust	NA	NA	NA	29,734	29,229	18,068	18,075	18,170	18,953	19,722	17,012	15,695	16,791	17,324	14,736
<i>unpaved roads</i>	NA	NA	NA	11,644	11,798	11,234	11,206	10,918	11,430	11,370	10,362	9,071	9,461	9,327	9,360
<i>paved roads</i>	NA	NA	NA	5,080	5,769	2,248	2,399	2,423	2,462	2,538	2,409	2,400	2,595	2,663	2,728
<i>construction</i>	NA	NA	NA	12,670	11,269	4,249	4,092	4,460	4,651	5,245	3,654	3,578	4,022	4,545	1,956
<i>other</i>	NA	NA	NA	339	392	336	377	369	409	569	586	645	713	788	692
<b>TOTAL ALL SOURCES</b>	<b>839</b>	<b>569</b>	<b>852</b>	<b>37,736</b>	<b>37,461</b>	<b>24,541</b>	<b>24,233</b>	<b>23,958</b>	<b>24,328</b>	<b>25,620</b>	<b>22,765</b>	<b>21,761</b>	<b>23,046</b>	<b>23,282</b>	<b>20,634</b>

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Table A-7. Miscellaneous and Natural PM<sub>10</sub> Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

Table A-8. National Sulfur Dioxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989–1999 (thousand short tons)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>23,456</b>	<b>22,661</b>	<b>21,391</b>	<b>20,021</b>	<b>19,924</b>	<b>20,290</b>	<b>19,796</b>	<b>19,493</b>	<b>19,245</b>	<b>18,887</b>	<b>16,230</b>	<b>16,234</b>	<b>16,651</b>	<b>16,746</b>	<b>16,091</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>17,398</b>	<b>18,268</b>	<b>17,469</b>	<b>16,272</b>	<b>16,215</b>	<b>15,909</b>	<b>15,784</b>	<b>15,416</b>	<b>15,189</b>	<b>14,889</b>	<b>12,080</b>	<b>12,730</b>	<b>13,195</b>	<b>13,416</b>	<b>12,698</b>
Coal	15,799	16,756	16,073	15,630	15,404	15,220	15,087	14,824	14,527	14,313	11,603	12,206	12,615	12,470	11,856
bituminous	9,574	10,161	NA	14,029	13,579	13,371	13,215	12,914	12,212	11,841	8,609	8,998	9,517	9,357	8,806
subbituminous	4,716	5,005	NA	1,292	1,422	1,415	1,381	1,455	1,796	1,988	2,345	2,632	2,490	2,486	2,427
anthracite & lignite	1,509	1,590	NA	309	404	434	491	455	519	484	649	576	608	627	623
Oil	1,598	1,511	1,395	612	779	639	652	546	612	522	413	460	514	762	657
residual	1,578	1,462	NA	604	765	629	642	537	601	512	408	454	509	756	651
distillate	20	49	NA	8	14	10	10	9	10	10	5	6	5	6	6
Gas	1	1	1	1	1	1	1	1	1	1	9	7	6	6	12
Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	4	121	115	
Internal Combustion	NA	NA	NA	30	30	49	45	46	49	53	55	53	56	57	58
<b>FUEL COMB. INDUSTRIAL</b>	<b>4,568</b>	<b>3,310</b>	<b>2,951</b>	<b>3,169</b>	<b>3,086</b>	<b>3,550</b>	<b>3,256</b>	<b>3,292</b>	<b>3,284</b>	<b>3,218</b>	<b>3,357</b>	<b>2,863</b>	<b>2,805</b>	<b>2,742</b>	<b>2,805</b>
Coal	3,129	1,870	1,527	1,818	1,840	1,914	1,805	1,783	1,763	1,740	1,728	1,321	1,306	1,274	1,317
bituminous	2,171	1,297	1,058	1,347	1,384	1,050	949	1,005	991	988	1,003	885	877	858	890
subbituminous	669	399	326	28	29	50	53	60	67	77	81	63	63	61	64
anthracite & lignite	289	174	144	90	79	67	68	67	68	68	68	61	60	57	57
other	NA	NA	NA	353	348	746	735	650	636	606	576	312	306	298	306
Oil	1,229	1,139	1,065	862	812	927	779	801	809	777	912	807	764	738	757
residual	956	825	851	671	625	687	550	591	597	564	701	626	578	559	574
distillate	98	144	85	111	107	198	190	191	193	193	191	158	161	156	159
other	175	171	129	80	80	42	39	20	20	20	20	23	25	23	24
Gas	140	263	299	397	346	543	516	552	555	542	548	575	582	578	576
Other	70	38	60	86	82	158	142	140	140	141	147	140	134	133	135
Internal Combustion	NA	NA	NA	7	6	9	14	16	17	19	23	20	19	19	20
<b>FUEL COMB. OTHER</b>	<b>1,490</b>	<b>1,082</b>	<b>971</b>	<b>579</b>	<b>624</b>	<b>831</b>	<b>755</b>	<b>784</b>	<b>772</b>	<b>780</b>	<b>793</b>	<b>641</b>	<b>651</b>	<b>588</b>	<b>588</b>
Commercial/Institutional Coal	109	147	110	158	169	212	184	190	193	192	200	179	184	196	196
Commercial/Institutional Oil	883	638	637	239	274	425	376	396	381	391	397	308	314	250	246
Commercial/Institutional Gas	1	1	1	2	2	7	7	7	8	8	8	10	10	10	11
Misc. Fuel Comb. (Except Residential) NA	NA	NA	1	1	6	6	6	6	6	6	5	6	6	6	6
Residential Wood	6	7	13	13	11	7	7	8	6	6	7	7	6	5	6
Residential Other	492	290	211	167	167	175	176	177	178	177	176	131	130	121	123
distillate oil	212	196	157	128	132	137	141	144	145	145	144	108	106	97	98
bituminous/subbituminous coal	260	76	43	29	27	30	26	26	25	25	24	17	18	18	18
other	20	18	11	10	8	9	8	8	8	8	8	6	6	6	6
<b>Industrial Processes</b>	<b>7,101</b>	<b>4,728</b>	<b>3,807</b>	<b>2,467</b>	<b>2,010</b>	<b>1,900</b>	<b>1,721</b>	<b>1,758</b>	<b>1,723</b>	<b>1,676</b>	<b>1,637</b>	<b>1,417</b>	<b>1,467</b>	<b>1,471</b>	<b>1,465</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>591</b>	<b>367</b>	<b>280</b>	<b>456</b>	<b>440</b>	<b>297</b>	<b>280</b>	<b>278</b>	<b>269</b>	<b>275</b>	<b>286</b>	<b>255</b>	<b>259</b>	<b>261</b>	<b>262</b>
Organic Chemical Mfg	NA	NA	NA	16	17	10	9	9	9	8	8	4	4	4	4
Inorganic Chemical Mfg	591	358	271	354	334	214	208	203	191	194	199	173	176	178	179
sulfur compounds	591	358	271	346	326	211	205	199	187	189	195	171	174	176	177
other	NA	NA	NA	8	8	2	3	4	4	4	4	2	2	2	2
Polymer & Resin Mfg	NA	NA	NA	7	7	1	1	1	1	1	0	1	1	1	1
Agricultural Chemical Mfg	NA	NA	NA	4	4	5	4	4	4	4	5	1	1	1	1
Paint, Varnish, Lacquer, Enamel Mfg	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	0
Pharmaceutical Mfg	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Other Chemical Mfg	NA	8	10	76	77	67	57	60	64	68	74	76	77	76	

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>METALS PROCESSING</b>	<b>4,775</b>	<b>2,849</b>	<b>1,842</b>	<b>1,042</b>	<b>695</b>	<b>726</b>	<b>612</b>	<b>615</b>	<b>603</b>	<b>562</b>	<b>530</b>	<b>390</b>	<b>407</b>	<b>405</b>	<b>401</b>
Nonferrous Metals Processing	4,060	2,165	1,279	853	513	517	435	438	431	391	361	267	276	274	272
copper	3,507	1,946	1,080	655	327	323	234	247	250	206	177	93	99	98	97
lead	77	34	34	121	113	129	135	131	122	128	126	112	113	114	114
aluminum	80	72	95	62	60	60	61	55	53	51	53	57	59	57	56
other	396	113	71	14	13	4	5	5	6	6	6	5	5	5	5
Ferrous Metals Processing	715	684	562	172	165	186	159	158	153	153	151	107	114	114	113
Metals Processing NEC	NA	NA	NA	18	17	22	18	18	19	19	18	17	17	17	17
<b>PETROLEUM &amp; RELATED INDUSTRIES 881</b>	<b>727</b>	<b>734</b>	<b>505</b>	<b>429</b>	<b>430</b>	<b>378</b>	<b>416</b>	<b>383</b>	<b>379</b>	<b>369</b>	<b>335</b>	<b>344</b>	<b>342</b>	<b>341</b>	
Oil & Gas Production	111	173	157	204	156	122	98	93	98	95	89	90	90	90	90
natural gas	111	173	157	202	155	120	96	92	96	93	88	89	90	89	89
other	NA	NA	NA	2	1	2	2	2	2	2	1	1	1	1	1
Petroleum Refineries & Related Ind.	770	554	577	300	272	304	274	315	278	276	271	238	246	245	244
fluid catalytic cracking units	480	318	330	212	195	183	182	185	183	188	188	157	163	162	162
other	290	236	247	88	77	121	92	130	95	88	83	81	83	83	82
Asphalt Manufacturing	NA	NA	NA	1	1	4	7	7	7	8	9	8	8	8	7
<b>OTHER INDUSTRIAL PROCESSES 846</b>	<b>846</b>	<b>740</b>	<b>918</b>	<b>425</b>	<b>405</b>	<b>399</b>	<b>396</b>	<b>396</b>	<b>392</b>	<b>398</b>	<b>403</b>	<b>390</b>	<b>409</b>	<b>415</b>	<b>418</b>
Agriculture, Food, & Kindred Products	NA	NA	3	3	3	3	3	3	3	3	3	4	4	4	5
Textiles, Leather, & Apparel Products	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood, Pulp & Paper, & Publ. Prod.	169	168	223	131	136	116	123	119	113	109	114	101	105	107	109
Rubber & Miscellaneous Plastic Prod.	NA	NA	1	1	0	0	0	0	0	0	0	1	1	1	1
Mineral Products	677	571	694	286	261	275	267	270	272	282	282	270	285	288	288
cement mfg	618	511	630	192	172	181	165	168	170	167	171	171	181	183	183
other	59	60	64	95	89	94	102	102	102	114	111	99	103	105	106
Machinery Products	NA	NA	NA	0	0	0	0	1	0	1	1	0	0	0	0
Electronic Equipment	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	NA	NA	NA	3	3	5	3	3	3	3	4	13	13	14	14
<b>SOLVENT UTILIZATION</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	1	1	1	1	1	1	1
Degreasing	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Graphic Arts	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Dry Cleaning	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Surface Coating	NA	NA	NA	1	1	0	0	0	0	0	0	0	0	0	0
Other Industrial	NA	NA	NA	0	0	0	0	0	0	0	0	0	1	1	1
<b>STORAGE &amp; TRANSPORT</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>
Bulk Terminals & Plants	NA	NA	NA	NA	NA	0	1	1	0	0	0	1	1	1	1
Petroleum & Petroleum Prod. Storage	NA	NA	0	0	5	7	0	0	0	0	0	0	0	0	0
Petroleum & Petroleum Prod.t Trans.	NA	NA	NA	1	1	0	0	0	0	0	0	0	1	1	2
Service Stations: Stage II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0
Organic Chemical Storage	NA	NA	NA	1	1	0	0	0	0	0	0	0	0	0	0
Organic Chemical Transport	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Transport	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	NA	NA	NA	1	2	1	1	7	4	1	1	2	2	2	2

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Table A-8.National Sulfur Dioxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons) (continued)

Table A-8. National Sulfur Dioxide Emissions Estimates, 1970, 1975, 1980, 1985, 1989-1999 (thousand short tons) (continued)

Source Category	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>8</b>	<b>46</b>	<b>33</b>	<b>34</b>	<b>36</b>	<b>42</b>	<b>44</b>	<b>44</b>	<b>71</b>	<b>60</b>	<b>47</b>	<b>41</b>	<b>42</b>	<b>42</b>	<b>37</b>
Incineration	4	29	21	25	28	32	32	32	51	42	35	29	29	30	30
<i>industrial</i>	NA	NA	NA	10	10	5	4	5	25	17	8	6	6	7	7
<i>other</i>	4	29	21	15	18	26	28	27	26	26	27	22	23	23	24
Open Burning	4	17	12	9	8	11	11	11	11	11	11	11	11	11	5
<i>industrial</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<i>other</i>	4	17	12	8	7	10	10	11	11	11	11	11	11	11	5
POTW	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
TSDF	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Landfills	NA	NA	NA	0	0	0	0	0	0	0	0	1	1	1	1
<i>industrial</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
<i>other</i>	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0
Other	NA	NA	NA	0	0	0	1	1	8	6	0	0	0	0	0
<b>Transportation</b>	<b>494</b>	<b>602</b>	<b>697</b>	<b>1,159</b>	<b>1,349</b>	<b>1,476</b>	<b>1,517</b>	<b>1,553</b>	<b>1,497</b>	<b>1,297</b>	<b>1,311</b>	<b>1,192</b>	<b>1,230</b>	<b>1,262</b>	<b>1,299</b>
<b>ON-ROAD VEHICLES</b>	<b>411</b>	<b>503</b>	<b>521</b>	<b>522</b>	<b>570</b>	<b>560</b>	<b>573</b>	<b>586</b>	<b>526</b>	<b>307</b>	<b>311</b>	<b>343</b>	<b>353</b>	<b>358</b>	<b>363</b>
Light-Duty Gas Vehicles & Motorcycles	132	158	159	146	145	129	126	125	124	125	126	128	131	134	137
<i>light-duty gas vehicles</i>	132	158	158	145	145	128	126	125	124	124	126	128	130	134	136
<i>motorcycles</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Light-Duty Gas Trucks	40	48	50	55	58	69	81	87	90	92	93	85	89	90	91
<i>light-duty gas trucks 1</i>	26	32	33	36	38	45	52	56	58	59	60	62	65	66	68
<i>light-duty gas trucks 2</i>	13	16	16	19	21	24	29	31	32	32	32	22	23	24	24
Heavy-Duty Gas Vehicles	8	9	10	11	11	10	10	10	11	12	11	18	18	17	17
Diesels	231	288	303	311	356	352	356	364	300	79	82	112	117	117	118
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>83</b>	<b>99</b>	<b>175</b>	<b>637</b>	<b>779</b>	<b>916</b>	<b>944</b>	<b>968</b>	<b>972</b>	<b>990</b>	<b>999</b>	<b>849</b>	<b>877</b>	<b>904</b>	<b>936</b>
Non-Road Gasoline	NA	NA	NA	20	22	22	22	22	23	23	23	28	28	28	28
Non-Road Diesel	NA	NA	NA	407	488	509	529	549	570	590	610	459	474	490	507
Aircraft	4	4	6	6	7	11	11	11	11	11	11	11	11	12	12
Marine Vessels	43	52	117	143	193	251	259	258	249	252	239	237	245	256	273
Railroads	36	43	53	59	67	122	120	125	117	113	113	111	115	114	113
Non-Road Other	NA	NA	NA	1	2	2	2	2	2	2	2	3	3	3	3
<b>Miscellaneous</b>	<b>110</b>	<b>20</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>10</b>	<b>16</b>	<b>15</b>	<b>12</b>	<b>12</b>
Agriculture & Forestry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0
Other Combustion	110	20	11	11	11	12	11	9	9	15	10	16	15	12	12
Fugitive Dust	NA	NA	NA	NA	NA	0	0	0	1	0	0	0	0	0	0
<b>TOTAL ALL SOURCES</b>	<b>31,161</b>	<b>28,011</b>	<b>25,905</b>	<b>23,658</b>	<b>23,293</b>	<b>23,678</b>	<b>23,045</b>	<b>22,813</b>	<b>22,474</b>	<b>21,875</b>	<b>19,188</b>	<b>18,859</b>	<b>19,363</b>	<b>19,491</b>	<b>18,867</b>

Note: Some columns may not sum to totals due to rounding.

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>909</b>	<b>893</b>	<b>927</b>	<b>852</b>	<b>841</b>	<b>898</b>	<b>848</b>	<b>776</b>	<b>735</b>	<b>766</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>121</b>	<b>105</b>	<b>106</b>	<b>112</b>	<b>108</b>	<b>107</b>	<b>157</b>	<b>161</b>	<b>130</b>	<b>128</b>
Coal	97	85	87	90	86	86	133	135	103	102
bituminous	59	53	53	57	54	52	88	89	62	61
subbituminous	14	16	18	18	17	20	32	31	30	30
anthracite & lignite	23	16	16	15	15	15	13	15	11	11
Oil	5	5	4	5	5	3	5	6	4	4
Gas	NA	NA	NA	NA	NA	NA	1	1	1	1
Other	0	0	0	0	0	0	0	0	3	3
Internal Combustion	20	15	16	17	17	18	17	18	18	19
<b>FUEL COMB. INDUSTRIAL</b>	<b>177</b>	<b>151</b>	<b>159</b>	<b>172</b>	<b>183</b>	<b>203</b>	<b>153</b>	<b>149</b>	<b>147</b>	<b>151</b>
Coal	29	23	25	24	25	25	23	23	23	24
bituminous	23	18	20	20	19	19	18	18	18	18
subbituminous	2	1	1	2	3	3	3	3	3	3
anthracite & lignite	1	1	0	0	0	1	0	0	0	0
other	3	3	3	3	2	2	2	2	2	2
Oil	31	26	26	27	26	28	26	24	24	24
residual	26	22	22	23	22	24	22	20	19	20
distillate	4	3	3	4	4	4	4	4	4	4
other	1	1	1	1	1	1	0	1	0	0
Gas	39	34	39	41	42	44	39	39	38	39
natural	29	23	26	28	29	29	25	25	25	25
process	11	10	13	13	14	15	13	14	14	14
other	0	0	0	0	0	0	0	0	0	0
Other	73	58	59	69	60	59	50	48	48	49
wood/bark waste	68	55	54	58	55	55	44	42	42	43
liquid waste	1	0	0	1	0	0	0	0	0	0
other	4	3	4	10	4	3	6	5	5	5
Internal Combustion	5	10	10	11	29	48	15	15	15	15
<b>FUEL COMB. OTHER</b>	<b>611</b>	<b>638</b>	<b>662</b>	<b>568</b>	<b>550</b>	<b>589</b>	<b>538</b>	<b>466</b>	<b>458</b>	<b>487</b>
Commercial/Institutional Coal	6	6	6	6	6	6	7	7	7	7
Commercial/Institutional Oil	5	5	5	5	5	5	5	5	4	4
Commercial/Institutional Gas	5	5	6	6	6	6	7	7	7	7
Misc. Fuel Comb. (Except Residential)	78	73	72	72	72	73	72	75	78	81
Residential Wood	501	535	558	464	446	484	433	358	349	374
fireplaces	501	535	558	464	446	484	418	344	335	359
woodstoves	NA	NA	NA	NA	NA	NA	15	14	13	14
Residential Other	15	15	15	15	15	15	15	14	13	14
<b>Industrial Processes</b>	<b>794</b>	<b>812</b>	<b>819</b>	<b>788</b>	<b>771</b>	<b>749</b>	<b>605</b>	<b>619</b>	<b>625</b>	<b>913</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>47</b>	<b>43</b>	<b>45</b>	<b>41</b>	<b>49</b>	<b>42</b>	<b>39</b>	<b>39</b>	<b>40</b>	<b>40</b>
Organic Chemical Mfg	10	10	11	10	11	11	12	12	12	12
Inorganic Chemical Mfg	12	3	4	4	4	3	3	3	3	3
Polymer & Resin Mfg	4	3	4	3	3	3	2	2	2	2
Agricultural Chemical Mfg	8	8	8	8	8	8	5	6	6	6
Paint, Varnish, Lacquer, Enamel Mfg	0	0	0	0	0	0	0	0	0	0
Pharmaceutical Mfg	0	0	0	0	0	0	0	0	0	0
Other Chemical Mfg	13	17	17	15	23	16	16	16	17	17

**Table A-9.**National PM<sub>2.5</sub> Emissions Estimates, 1990–1999 (thousand short tons)

**Table A-9.**National PM<sub>2.5</sub> Emissions Estimates, 1990–1999 (thousand short tons) (continued)

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>METALS PROCESSING</b>	<b>157</b>	<b>197</b>	<b>198</b>	<b>125</b>	<b>125</b>	<b>134</b>	<b>100</b>	<b>105</b>	<b>105</b>	<b>103</b>
Non-Ferrous Metals Processing	31	29	29	25	25	25	22	23	23	23
copper	9	9	9	8	8	8	4	5	4	4
lead	2	2	2	2	2	2	2	2	2	2
zinc	5	5	5	1	1	1	1	1	1	1
other	14	13	13	14	14	14	15	15	15	15
Ferrous Metals Processing	121	89	83	86	86	92	65	69	68	67
primary	103	72	66	68	68	74	47	50	50	50
secondary	17	16	16	17	18	19	18	18	18	17
other	1	0	0	0	0	0	0	0	0	0
Metals Processing NEC	5	80	85	14	14	16	13	14	14	14
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	<b>27</b>	<b>24</b>	<b>24</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>
Oil & Gas Production	2	2	2	2	2	2	1	1	1	1
Petroleum Refineries & Related Industries	13	14	14	13	13	13	12	12	12	12
fluid catalytic cracking units	11	12	12	11	11	11	7	8	8	8
other	2	2	2	2	2	2	4	4	4	4
Asphalt Manufacturing	12	9	8	7	7	8	4	4	4	4
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>284</b>	<b>264</b>	<b>259</b>	<b>260</b>	<b>256</b>	<b>256</b>	<b>180</b>	<b>186</b>	<b>189</b>	<b>191</b>
Agriculture, Food, & Kindred Products	39	46	40	44	43	40	20	21	21	22
country elevators	6	6	7	6	6	6	1	1	1	1
terminal elevators	3	3	4	5	4	4	0	0	0	0
feed mills	2	2	2	2	2	2	1	1	1	1
soybean mills	5	4	4	5	5	5	3	3	3	3
wheat mills	1	1	1	1	1	1	1	1	1	1
other grain mills	4	3	3	3	3	3	2	3	3	3
other	17	26	19	21	22	20	14	14	14	14
Textiles, Leather, & Apparel Products	0	0	0	0	0	0	0	1	0	0
Wood, Pulp & Paper, & Publishing Products	77	61	59	59	57	60	52	53	55	56
sulfate (kraft) pulping	57	40	38	38	38	40	31	32	32	33
other	21	21	21	21	19	20	21	22	22	23
Rubber & Miscellaneous Plastic Products	3	3	3	3	3	3	2	2	2	2
Mineral Products	144	134	135	136	133	134	88	92	93	93
cement mfg	54	40	39	38	38	38	11	11	11	11
surface mining	6	6	7	7	7	6	7	7	7	7
stone quarrying/processing	24	28	28	28	26	26	9	9	9	9
other	61	60	61	62	63	63	61	64	65	66
Machinery Products	3	3	3	3	3	3	2	2	2	2
Electronic Equipment	0	0	0	0	0	0	1	1	1	1
Transportation Equipment	1	1	1	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	16	16	17	15	16	16	14	14	15	15
<b>SOLVENT UTILIZATION</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>6</b>
Degreasing	0	0	0	0	0	0	0	0	0	0
Graphic Arts	0	0	0	0	0	0	1	1	1	1
Dry Cleaning	0	0	0	0	0	0	0	0	0	0
Surface Coating	3	3	4	4	4	4	4	4	4	4
Other Industrial	1	1	1	1	1	1	0	0	0	0
Nonindustrial	NA	NA	NA	NA	NA	NA	0	0	0	0
Solvent Utilization NEC	NA	NA	NA	NA	NA	NA	0	0	0	0

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>STORAGE &amp; TRANSPORT</b>	<b>42</b>	<b>42</b>	<b>50</b>	<b>46</b>	<b>43</b>	<b>42</b>	<b>30</b>	<b>31</b>	<b>31</b>	<b>31</b>
Bulk Terminals & Plants	0	0	0	0	0	0	0	0	0	0
Petroleum & Petroleum Product Storage	0	1	1	1	0	0	0	0	0	0
Petroleum & Petroleum Product Transport	0	0	0	0	0	0	0	0	0	0
Service Stations: Stage II	0	0	0	0	0	0	0	0	0	0
Organic Chemical Storage	0	0	0	0	0	0	1	1	1	1
Organic Chemical Transport	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Transport	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	41	41	48	44	41	41	28	29	29	30
storage	13	11	12	13	13	12	11	11	11	11
transfer	28	29	36	31	28	29	17	18	18	18
combined	0	0	0	0	0	0	0	0	0	0
other	NA	0	0	NA	0	0	0	0	0	0
Bulk Materials Transport	0	0	0	0	0	0	0	0	0	0
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>234</b>	<b>238</b>	<b>239</b>	<b>288</b>	<b>271</b>	<b>247</b>	<b>234</b>	<b>236</b>	<b>238</b>	<b>525</b>
Incineration	46	47	46	93	73	50	45	46	46	47
residential	27	28	30	31	31	31	30	30	30	31
other	19	18	16	62	42	19	15	15	16	16
Open Burning	187	190	192	195	196	197	186	188	190	476
residential	177	179	181	183	184	185	176	177	179	173
other	10	11	11	11	12	11	10	11	11	303
POTW	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	0	0	0	0	0	0	0	0	0	0
TSDF	0	0	0	0	0	0	0	0	0	0
Landfills	0	0	1	1	1	0	2	2	2	2
Other	0	0	0	0	1	0	0	0	0	0
<b>Transportation</b>	<b>719</b>	<b>720</b>	<b>717</b>	<b>688</b>	<b>682</b>	<b>640</b>	<b>701</b>	<b>686</b>	<b>665</b>	<b>640</b>
<b>ON-ROAD VEHICLES</b>	<b>286</b>	<b>288</b>	<b>284</b>	<b>261</b>	<b>258</b>	<b>237</b>	<b>276</b>	<b>263</b>	<b>246</b>	<b>229</b>
Light-Duty Gas Vehicles & Motorcycles	34	33	32	32	32	32	32	33	34	34
ldgv	34	33	32	32	32	32	32	33	33	34
motorcycles	0	0	0	0	0	0	0	0	0	0
Light-Duty Gas Trucks	24	28	30	30	29	26	22	22	22	22
ldgt1	12	13	14	14	14	14	14	15	15	15
ldgt2	13	15	16	16	15	12	8	8	7	7
Heavy-Duty Gas Vehicles	6	6	6	7	7	6	9	9	8	8
Diesels	221	220	216	192	190	173	212	199	181	166
hddv	204	211	207	184	182	165	208	196	179	164
lddt	12	2	2	2	2	2	1	1	1	1
lddv	6	7	7	6	6	6	2	2	1	1
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>432</b>	<b>432</b>	<b>433</b>	<b>427</b>	<b>424</b>	<b>403</b>	<b>425</b>	<b>423</b>	<b>419</b>	<b>411</b>
Non-Road Gasoline	43	43	43	44	44	45	79	80	81	82
recreational	2	3	3	3	3	3	3	3	3	3
construction	1	1	1	1	1	1	2	2	2	2
industrial	0	0	0	0	0	0	0	0	0	0
lawn & garden	10	10	10	11	11	11	19	19	19	19
farm	0	0	0	0	0	0	0	0	0	0
light commercial	1	2	2	2	2	2	2	2	2	2

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Table A-9. National PM<sub>2.5</sub> Emissions Estimates, 1990–1999 (thousand short tons) (continued)

**Table A-9.**National PM<sub>2.5</sub> Emissions Estimates, 1990–1999 (thousand short tons) (continued)

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>NON-ROAD ENGINES AND VEHICLES (cont.)</b>										
logging	0	0	0	0	0	0	17	19	20	21
airport service	0	0	0	0	0	0	0	0	0	0
railway maintenance	0	0	0	0	0	0	0	0	0	0
recreational marine vessels	27	27	27	28	28	28	35	35	36	36
Non-Road Diesel	277	275	273	273	272	272	251	247	242	233
<i>recreational</i>	1	1	1	1	1	1	1	1	1	1
<i>construction</i>	137	136	136	135	134	134	130	128	124	118
<i>industrial</i>	35	34	34	35	35	35	30	30	30	30
<i>lawn &amp; garden</i>	8	8	9	10	11	11	10	10	11	11
<i>farm</i>	71	71	70	69	68	67	57	55	53	50
<i>light commercial</i>	11	11	11	12	12	13	12	13	13	14
<i>logging</i>	12	10	9	8	8	8	8	7	6	5
<i>airport service</i>	1	1	1	1	1	1	1	1	1	1
<i>railway maintenance</i>	1	1	1	1	1	1	1	1	1	0
<i>recreational marine vessels</i>	1	1	1	1	1	1	2	2	2	2
Aircraft	31	31	32	30	29	28	28	27	27	27
Marine Vessels	32	34	33	31	32	31	39	39	40	40
<i>coal</i>	1	1	1	1	1	1	1	1	1	1
<i>diesel</i>	25	26	25	24	24	24	37	38	38	38
<i>residual oil</i>	6	6	6	6	6	6	0	0	0	0
<i>gasoline</i>	0	0	0	0	0	0	0	0	0	0
Railroads	49	48	50	48	46	25	27	28	28	27
Non-Road Other	1	1	1	1	1	1	2	2	2	2
<i>liquefied petroleum gas</i>	1	1	1	1	1	1	1	1	1	1
<i>compressed natural gas</i>	0	0	0	0	0	0	0	0	0	0
<b>Miscellaneous</b>	<b>5,234</b>	<b>5,004</b>	<b>4,854</b>	<b>4,926</b>	<b>5,360</b>	<b>4,725</b>	<b>4755</b>	<b>5186</b>	<b>5040</b>	<b>4454</b>
Agriculture & Forestry	1,031	1,019	976	887	941	952	953	961	961	948
<i>agricultural crops</i>	949	937	893	803	856	867	866	875	873	860
<i>agricultural livestock</i>	82	83	83	84	85	85	87	87	88	89
Other Combustion	1,037	807	666	693	913	734	946	1139	871	872
<i>wildfires</i>	538	299	151	137	372	130	386	538	233	233
<i>managed burning</i>	479	488	494	535	519	583	542	582	619	620
<i>other</i>	20	20	21	21	21	22	18	19	19	19
Cooling Towers	0	0	0	0	0	1	2	2	3	3
Fugitive Dust	3,166	3,177	3,212	3,346	3,506	3,037	2853	3084	3206	2631
<i>unpaved roads</i>	1,687	1,684	1,642	1,718	1,709	1,559	1366	1427	1406	1411
<i>paved roads</i>	562	600	606	616	634	585	600	649	666	682
<i>construction</i>	850	818	892	930	1,049	777	750	857	968	391
<i>other</i>	67	75	73	81	113	117	136	150	165	146
<b>TOTAL ALL SOURCES</b>	<b>7,655</b>	<b>7,430</b>	<b>7,317</b>	<b>7,254</b>	<b>7,654</b>	<b>7,012</b>	<b>6,909</b>	<b>7,267</b>	<b>7,065</b>	<b>6,773</b>

**Note:** Some columns may not sum to totals due to rounding.

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Fuel Combustion</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>47</b>	<b>47</b>	<b>47</b>	<b>48</b>
<b>FUEL COMB. ELEC. UTIL.</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>7</b>
Coal	NA	NA	NA	NA	NA	NA	0	0	0	0
Oil	NA	NA	NA	NA	NA	NA	2	2	3	3
Gas	NA	NA	NA	NA	NA	NA	4	4	4	4
Other	NA	NA	NA	NA	NA	0	0	0	0	0
Internal Combustion	0	0	0	0	0	0	0	0	0	0
<b>FUEL COMB. INDUSTRIAL</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>34</b>	<b>34</b>	<b>33</b>	<b>34</b>
Coal	0	0	0	0	0	0	0	0	0	0
Oil	4	4	4	4	4	4	4	4	4	4
Gas	13	13	13	14	14	13	25	25	25	25
Other	0	0	0	0	0	0	0	0	0	0
Internal Combustion	0	0	0	0	0	0	5	5	5	5
<b>FUEL COMB. OTHER</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>7</b>
Commercial/Institutional Coal	0	0	0	0	0	0	0	0	0	0
Commercial/Institutional Oil	2	2	2	2	2	2	2	2	2	2
Commercial/Institutional Gas	1	1	1	1	1	1	1	1	1	1
Misc. Fuel Comb. (Except Residential)	NA	NA	NA	NA	NA	NA	0	0	0	0
Residential Other	5	5	5	5	5	5	5	4	4	4
<b>Industrial Processes</b>	<b>351</b>	<b>355</b>	<b>359</b>	<b>364</b>	<b>364</b>	<b>365</b>	<b>271</b>	<b>277</b>	<b>284</b>	<b>289</b>
<b>CHEMICAL &amp; ALLIED PRODUCT MFG</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>123</b>	<b>125</b>	<b>130</b>	<b>133</b>
Organic Chemical Mfg	NA	NA	NA	NA	NA	NA	0	0	0	0
Inorganic Chemical Mfg	NA	NA	NA	NA	NA	NA	0	0	0	0
Polymer & Resin Mfg	NA	NA	NA	NA	NA	NA	0	0	0	0
Agricultural Chemicals	183	183	183	183	183	183	109	111	115	118
ammonium nitrate/urea mfg.	111	111	111	111	111	111	41	42	43	44
other	71	71	71	71	71	71	68	70	72	73
Other Chemical Mfg	NA	NA	NA	NA	NA	NA	13	14	14	15
<b>METALS PROCESSING</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>5</b>
Non-Ferrous Metals Processing	0	0	0	0	0	0	0	0	0	0
Ferrous Metals Processing	6	6	6	6	6	6	4	5	5	5
Metals Processing NEC	0	0	0	0	0	0	0	0	0	0
<b>PETROLEUM &amp; RELATED INDUSTRIES</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>16</b>	<b>17</b>	<b>17</b>	<b>17</b>
Oil & Gas Production	0	0	0	0	0	0	0	0	0	0
Petroleum Refineries & Related Industries	43	43	43	43	43	43	16	17	17	17
catalytic cracking	43	43	43	43	43	43	16	17	17	17
other	0	0	0	0	0	0	0	0	0	0
<b>OTHER INDUSTRIAL PROCESSES</b>	<b>38</b>	<b>38</b>	<b>39</b>	<b>39</b>	<b>40</b>	<b>40</b>	<b>43</b>	<b>45</b>	<b>45</b>	<b>45</b>
Agriculture, Food, & Kindred Products	2	2	3	3	2	2	4	4	4	4
Textiles, Leather, & Apparel Products	NA	NA	NA	NA	NA	NA	0	0	0	0
Wood, Pulp & Paper, & Publishing Products	NA	NA	NA	NA	NA	NA	1	1	1	1
Rubber & Miscellaneous Plastic Products	NA	NA	NA	NA	NA	NA	0	0	0	0
Mineral Products	0	0	0	0	0	0	0	0	0	0
Machinery Products	NA	NA	NA	NA	NA	NA	0	0	0	0
Electronic Equipment	NA	NA	NA	NA	NA	NA	0	0	0	0
Miscellaneous Industrial Processes	35	35	36	37	38	38	39	40	40	40

Table A-10. National Ammonia Emissions Estimates, 1990–1999 (thousand short tons)

Table A-10. National Ammonia Emissions Estimates, 1990–1999 (thousand short tons) (continued)

Source Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>SOLVENT UTILIZATION</b>	0	0	0	0	0	0	0	0	0	<b>0</b>
Degreasing	NA	NA	NA	NA	NA	0	0	0	0	0
Graphic Arts	NA	NA	NA	NA	NA	0	0	0	0	0
Dry Cleaning	NA	NA	NA	NA	NA	0	0	0	0	0
Surface Coating	NA	NA	NA	NA	NA	0	0	0	0	0
Other Industrial	NA	NA	NA	NA	NA	0	0	0	0	0
<b>STORAGE &amp; TRANSPORT</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Bulk Terminals & Plants	NA	NA	NA	NA	NA	NA	0	0	0	0
Petroleum & Petroleum Product Storage	NA	NA	NA	NA	NA	NA	1	1	1	1
Petroleum & Petroleum Product Transport	NA	NA	NA	NA	NA	NA	0	0	0	0
Organic Chemical Storage	NA	NA	NA	NA	NA	NA	0	0	0	0
Inorganic Chemical Storage	NA	NA	NA	NA	NA	NA	0	0	0	0
Bulk Materials Storage	0	0	0	0	0	0	0	0	0	0
<b>WASTE DISPOSAL &amp; RECYCLING</b>	<b>82</b>	<b>86</b>	<b>89</b>	<b>93</b>	<b>93</b>	<b>93</b>	<b>84</b>	<b>84</b>	<b>86</b>	<b>88</b>
Incineration	NA	NA	NA	NA	NA	NA	0	0	0	0
Open Burning	NA	NA	NA	NA	NA	NA	0	0	0	0
POTW	82	86	89	93	93	93	84	84	86	87
<i>wastewater treatment</i>	82	86	89	93	93	93	84	84	86	87
<i>other</i>	NA	NA	NA	NA	NA	NA	0	0	0	0
Industrial Waste Water	NA	NA	NA	NA	NA	NA	0	0	0	0
TSDF	NA	NA	NA	NA	NA	NA	0	0	0	0
Landfills	NA	NA	NA	NA	NA	NA	0	0	0	0
Other	NA	NA	NA	NA	NA	NA	0	0	0	0
<b>Transportation</b>	<b>194</b>	<b>205</b>	<b>214</b>	<b>224</b>	<b>239</b>	<b>258</b>	<b>238</b>	<b>267</b>	<b>262</b>	<b>270</b>
<b>ON-ROAD VEHICLES</b>	<b>188</b>	<b>198</b>	<b>208</b>	<b>218</b>	<b>233</b>	<b>252</b>	<b>229</b>	<b>258</b>	<b>252</b>	<b>260</b>
Light-Duty Gas Vehicles & Motorcycles	149	151	155	159	168	180	157	168	169	174
Light-Duty Gas Trucks	38	46	52	58	63	70	63	80	72	76
Heavy-Duty Gas Vehicles	0	0	1	1	1	1	4	4	4	4
Diesels	0	0	0	0	0	0	6	6	6	6
<b>NON-ROAD ENGINES AND VEHICLES</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>10</b>
Non-Road Gasoline	1	1	1	1	1	1	1	1	1	1
Non-Road Diesel	2	3	3	3	3	3	3	3	3	3
Aircraft	NA	NA	NA	NA	NA	NA	3	3	4	4
Marine Vessels	1	1	1	1	1	1	1	1	1	1
Railroads	2	2	2	2	2	2	1	1	1	1
<b>NATURAL SOURCES</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>
Biogenic	30	29	28	29	30	31	32	33	34	35
<b>Miscellaneous</b>	<b>3,727</b>	<b>3,770</b>	<b>3,814</b>	<b>3,869</b>	<b>3,924</b>	<b>3,979</b>	<b>4,106</b>	<b>4,163</b>	<b>4,258</b>	<b>4,322</b>
Agriculture & Forestry	3,727	3,770	3,814	3,869	3,924	3,979	4,106	4,163	4,258	4,322
<i>livestock agriculture</i>	3,307	3,324	3,341	3,370	3,399	3,427	3,457	3,485	3,520	3,552
<i>fertilizer application</i>	420	446	473	499	525	551	649	678	739	769
Fugitive Dust	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ALL SOURCES</b>	<b>4,327</b>	<b>4,383</b>	<b>4,440</b>	<b>4,512</b>	<b>4,583</b>	<b>4,658</b>	<b>4,694</b>	<b>4,787</b>	<b>4,885</b>	<b>4,964</b>

Note: Some columns may not sum to totals due to rounding.

**Table A-11.** National Long-Term Air Quality Trends, 1980–1999

Year	CO 2nd Max. 8-hr ppm	Pb Max. Qtr. µg/m <sup>3</sup>	NO <sub>2</sub> Arith. Mean ppm	Ozone 2nd Max. 1-hr ppm	PM <sub>10</sub> Wtd. Arith. Mean µg/m <sup>3</sup>	SO <sub>2</sub> Arith. Mean ppm
<b>1980–89</b>	<b>(304 sites)</b>	<b>(216 sites)</b>	<b>(156 sites)</b>	<b>(441 sites)</b>	—	<b>(438 sites)</b>
1980	8.6	0.65	0.024	0.134	—	0.0103
1981	8.4	0.54	0.024	0.125	—	0.0101
1982	8.1	0.53	0.023	0.124	—	0.0094
1983	7.9	0.40	0.022	0.137	—	0.0091
1984	7.8	0.37	0.023	0.124	—	0.0092
1985	7.1	0.25	0.023	0.122	—	0.0087
1986	7.2	0.15	0.023	0.118	—	0.0085
1987	6.7	0.11	0.023	0.124	—	0.0083
1988	6.5	0.10	0.023	0.135	—	0.0084
1989	6.4	0.08	0.023	0.115	—	0.0081
<b>1990–99</b>	<b>(388 sites)</b>	<b>(175 sites)</b>	<b>(230 sites)</b>	<b>(703 sites)</b>	<b>(954 sites)</b>	<b>(480 sites)</b>
1990	5.8	0.10	0.020	0.112	29.2	0.0081
1991	5.7	0.08	0.019	0.112	29.0	0.0079
1992	5.3	0.06	0.019	0.105	26.8	0.0073
1993	5.0	0.06	0.019	0.108	26.0	0.0072
1994	5.1	0.05	0.020	0.107	26.0	0.0069
1995	4.6	0.05	0.019	0.112	24.8	0.0056
1996	4.3	0.04	0.018	0.105	24.0	0.0056
1997	4.0	0.04	0.018	0.105	23.8	0.0054
1998	3.8	0.04	0.018	0.110	23.6	0.0053
1999	3.7	0.04	0.018	0.107	23.9	0.0052

**Table A-12a.** National Air Quality Trends by Monitoring Location, 1980–1989

Statistic	# of Sites	Units	Location	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Carbon Monoxide</b>													
2nd Max. 8-hr.	3	ppm	Rural	4.7	4.9	3.8	3.3	4.1	3.8	4.5	3.8	3.5	3.2
2nd Max. 8-hr.	132	ppm	Suburban	8.0	7.8	7.5	7.5	7.3	6.6	6.6	6.4	6.1	6.1
2nd Max. 8-hr.	166	ppm	Urban	9.1	8.8	8.6	8.3	8.2	7.5	7.6	7.0	6.8	6.6
<b>Lead</b>													
Max. Qtr.	8	µg/m³	Rural	0.53	0.49	0.32	0.26	0.24	0.16	0.11	0.10	0.09	0.09
Max. Qtr.	89	µg/m³	Suburban	0.68	0.56	0.50	0.41	0.36	0.25	0.15	0.11	0.09	0.08
Max. Qtr.	114	µg/m³	Urban	0.64	0.53	0.57	0.41	0.38	0.25	0.15	0.11	0.09	0.08
<b>Nitrogen Dioxide</b>													
Arith. Mean	23	ppm	Rural	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
Arith. Mean	75	ppm	Suburban	0.026	0.025	0.024	0.024	0.024	0.024	0.024	0.024	0.025	0.024
Arith. Mean	57	ppm	Urban	0.029	0.028	0.027	0.027	0.028	0.027	0.028	0.027	0.028	0.027
<b>Ozone</b>													
2nd Max. 1-hr.	121	ppm	Rural	0.123	0.116	0.113	0.125	0.116	0.114	0.112	0.117	0.129	0.110
2nd Max. 1-hr.	215	ppm	Suburban	0.138	0.130	0.129	0.142	0.128	0.127	0.122	0.129	0.141	0.118
2nd Max. 1-hr.	96	ppm	Urban	0.137	0.126	0.124	0.140	0.126	0.122	0.119	0.125	0.133	0.116
<b>PM<sub>10</sub>*</b>													
Wtd. Arith. Mean	—	µg/m³	Rural	—	—	—	—	—	—	—	—	—	—
Wtd. Arith. Mean	—	µg/m³	Suburban	—	—	—	—	—	—	—	—	—	—
Wtd. Arith. Mean	—	µg/m³	Urban	—	—	—	—	—	—	—	—	—	—
<b>Sulfur Dioxide</b>													
Arith. Mean	117	ppm	Rural	0.0087	0.0083	0.0076	0.0074	0.0076	0.0074	0.0072	0.0070	0.0070	0.0070
Arith. Mean	180	ppm	Suburban	0.0105	0.0101	0.0093	0.0091	0.0094	0.0090	0.0087	0.0084	0.0085	0.0082
Arith. Mean	133	ppm	Urban	0.0116	0.0116	0.0109	0.0104	0.0104	0.0095	0.0096	0.0092	0.0095	0.0092

\* PM<sub>10</sub> trend data is not available for this 10-year period.

**Table A-12b.** National Air Quality Trends by Monitoring Location, 1990–1999

Statistic	# of Sites	Units	Location	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Carbon Monoxide</b>													
2nd Max. 8-hr.	13	ppm	Rural	2.5	2.6	2.3	2.0	2.2	2.3	1.9	1.8	1.7	1.6
2nd Max. 8-hr.	157	ppm	Suburban	5.6	5.4	5.0	4.9	5.0	4.3	4.1	3.9	3.8	3.7
2nd Max. 8-hr.	215	ppm	Urban	6.2	6.1	5.6	5.2	5.4	4.9	4.6	4.3	4.0	3.9
<b>Lead</b>													
Max. Qtr.	6	µg/m³	Rural	0.06	0.06	0.07	0.06	0.05	0.1	0.04	0.03	0.05	0.04
Max. Qtr.	86	µg/m³	Suburban	0.08	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03
Max. Qtr.	78	µg/m³	Urban	0.12	0.09	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.04
<b>Nitrogen Dioxide</b>													
Arith. Mean	43	ppm	Rural	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.008
Arith. Mean	105	ppm	Suburban	0.021	0.021	0.020	0.020	0.020	0.020	0.019	0.018	0.019	0.019
Arith. Mean	80	ppm	Urban	0.024	0.024	0.023	0.023	0.024	0.023	0.023	0.022	0.022	0.022
<b>Ozone</b>													
2nd Max. 1-hr.	239	ppm	Rural	0.107	0.105	0.101	0.103	0.102	0.108	0.102	0.101	0.107	0.105
2nd Max. 1-hr.	325	ppm	Suburban	0.115	0.117	0.108	0.111	0.111	0.116	0.107	0.108	0.114	0.110
2nd Max. 1-hr.	121	ppm	Urban	0.110	0.110	0.105	0.104	0.106	0.109	0.105	0.102	0.104	0.103
<b>PM<sub>10</sub></b>													
Wtd. Arith. Mean	153	µg/m³	Rural	23.9	23.2	21.7	20.6	20.8	19.4	19.4	19.0	19.0	19.2
Wtd. Arith. Mean	375	µg/m³	Suburban	30.1	29.8	27.6	26.8	26.8	25.8	24.6	24.6	24.3	24.8
Wtd. Arith. Mean	408	µg/m³	Urban	30.5	30.4	28.0	27.3	27.3	26.0	25.1	24.9	24.9	24.9
<b>Sulfur Dioxide</b>													
Arith. Mean	123	ppm	Rural	0.0065	0.0063	0.0060	0.0061	0.0058	0.0050	0.0048	0.0046	0.0045	0.0042
Arith. Mean	215	ppm	Suburban	0.0086	0.0084	0.0078	0.0076	0.0072	0.0057	0.0059	0.0057	0.0057	0.0056
Arith. Mean	131	ppm	Urban	0.0092	0.0088	0.0080	0.0077	0.0077	0.0060	0.0059	0.0057	0.0056	0.0055

**Table A-13a.** National Air Quality Trends Statistics by EPA Region, 1980–1989

Statistic	# of Sites	Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Region 1</b>												
CO	2nd Max. 8-hr.	10	ppm	9.4	8.4	8.9	8.5	8.3	6.8	7.2	6.4	5.6
Pb	Max. Qtr.	15	µg/m³	0.53	0.49	0.54	0.41	0.33	0.29	0.11	0.08	0.06
NO <sub>2</sub>	Arith. Mean	4	ppm	0.032	0.030	0.028	0.026	0.032	0.031	0.029	0.030	0.030
O <sub>3</sub>	2nd Max. 1-hr.	21	ppm	0.161	0.141	0.151	0.169	0.155	0.139	0.123	0.133	0.160
O <sub>3</sub>	4th Max. 8-hr.	21	ppm	0.112	0.100	0.109	0.121	0.106	0.100	0.090	0.095	0.118
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO <sub>2</sub>	Arith. Mean	46	ppm	0.0107	0.0100	0.0099	0.0092	0.0099	0.0095	0.0101	0.0099	0.0100
<b>Region 2</b>												
CO	2nd Max. 8-hr.	22	ppm	8.9	9.4	8.5	7.8	8.3	6.7	7.4	6.4	6.2
Pb	Max. Qtr.	7	µg/m³	0.61	0.62	0.63	0.47	0.53	0.38	0.12	0.08	0.08
NO <sub>2</sub>	Arith. Mean	7	ppm	0.029	0.029	0.031	0.031	0.030	0.029	0.028	0.029	0.027
O <sub>3</sub>	2nd Max. 1-hr.	25	ppm	0.142	0.132	0.133	0.152	0.130	0.130	0.123	0.139	0.158
O <sub>3</sub>	4th Max. 8-hr.	25	ppm	0.106	0.098	0.098	0.111	0.096	0.098	0.095	0.104	0.120
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO <sub>2</sub>	Arith. Mean	31	ppm	0.0148	0.0147	0.0135	0.0126	0.0131	0.0117	0.0114	0.0109	0.0119
<b>Region 3</b>												
CO	2nd Max. 8-hr.	38	ppm	7.0	7.0	7.0	6.9	7.6	5.7	6.2	5.9	5.4
Pb	Max. Qtr.	29	µg/m³	0.46	0.39	0.44	0.34	0.34	0.22	0.15	0.12	0.14
NO <sub>2</sub>	Arith. Mean	36	ppm	0.024	0.023	0.023	0.023	0.024	0.023	0.024	0.024	0.023
O <sub>3</sub>	2nd Max. 1-hr.	62	ppm	0.133	0.122	0.125	0.138	0.119	0.118	0.114	0.128	0.150
O <sub>3</sub>	4th Max. 8-hr.	62	ppm	0.102	0.095	0.095	0.107	0.092	0.093	0.090	0.100	0.116
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO <sub>2</sub>	Arith. Mean	54	ppm	0.0141	0.0137	0.0130	0.0130	0.0133	0.0124	0.0127	0.0123	0.0130
<b>Region 4</b>												
CO	2nd Max. 8-hr.	47	ppm	7.9	7.8	7.3	7.4	7.7	6.2	6.1	5.9	5.6
Pb	Max. Qtr.	39	µg/m³	0.49	0.41	0.52	0.42	0.37	0.21	0.12	0.10	0.08
NO <sub>2</sub>	Arith. Mean	8	ppm	0.018	0.019	0.019	0.019	0.018	0.018	0.017	0.018	0.018
O <sub>3</sub>	2nd Max. 1-hr.	71	ppm	0.116	0.107	0.105	0.118	0.106	0.104	0.114	0.112	0.123
O <sub>3</sub>	4th Max. 8-hr.	71	ppm	0.089	0.082	0.081	0.091	0.082	0.081	0.087	0.088	0.096
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO <sub>2</sub>	Arith. Mean	63	ppm	0.0096	0.0088	0.0078	0.0072	0.0071	0.0071	0.0072	0.0073	0.0076
<b>Region 5</b>												
CO	2nd Max. 8-hr.	39	ppm	7.5	7.8	7.3	7.0	7.5	5.9	6.2	6.3	5.5
Pb	Max. Qtr.	48	µg/m³	0.59	0.48	0.56	0.36	0.31	0.20	0.13	0.10	0.09
NO <sub>2</sub>	Arith. Mean	17	ppm	0.019	0.020	0.020	0.021	0.021	0.020	0.020	0.021	0.020
O <sub>3</sub>	2nd Max. 1-hr.	90	ppm	0.119	0.114	0.112	0.129	0.109	0.106	0.108	0.119	0.131
O <sub>3</sub>	4th Max. 8-hr.	90	ppm	0.092	0.088	0.086	0.096	0.083	0.082	0.081	0.090	0.105
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO <sub>2</sub>	Arith. Mean	126	ppm	0.0112	0.0109	0.0102	0.0101	0.0101	0.0095	0.0090	0.0088	0.0086

\* PM<sub>10</sub> trend data is not available for this 10-year period.

**Table A-13a.** National Air Quality Trends Statistics by EPA Region, 1980–1989 (continued)

Statistic	# of Sites	Units	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Region 6</b>												
CO	2nd Max. 8-hr.	24	ppm	8.2	8.1	8.0	7.4	7.3	7.3	7.3	7.5	6.5
Pb	Max. Qtr.	16	µg/m³	0.74	0.76	0.63	0.56	0.50	0.30	0.16	0.13	0.10
NO₂	Arith. Mean	12	ppm	0.017	0.017	0.017	0.017	0.017	0.016	0.017	0.017	0.015
O₃	2nd Max. 1-hr.	34	ppm	0.131	0.127	0.121	0.120	0.123	0.118	0.114	0.117	0.118
O₃	4th Max. 8-hr.	34	ppm	0.093	0.090	0.086	0.086	0.089	0.087	0.083	0.087	0.089
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO₂	Arith. Mean	29	ppm	0.0066	0.0073	0.0068	0.0076	0.0068	0.0071	0.0063	0.0059	0.0056
<b>Region 7</b>												
CO	2nd Max. 8-hr.	13	ppm	7.7	7.4	7.3	5.8	6.1	5.2	6.0	5.7	4.9
Pb	Max. Qtr.	14	µg/m³	0.31	0.27	0.22	0.20	0.20	0.16	0.10	0.09	0.08
NO₂	Arith. Mean	8	ppm	0.016	0.014	0.016	0.015	0.015	0.014	0.015	0.016	0.015
O₃	2nd Max. 1-hr.	20	ppm	0.119	0.104	0.100	0.119	0.115	0.108	0.108	0.113	0.118
O₃	4th Max. 8-hr.	20	ppm	0.087	0.074	0.075	0.090	0.087	0.079	0.077	0.082	0.092
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO₂	Arith. Mean	17	ppm	0.0094	0.0085	0.0095	0.0093	0.0093	0.0082	0.0083	0.0081	0.0076
<b>Region 8</b>												
CO	2nd Max. 8-hr.	12	ppm	10.4	10.6	10.2	11.9	10.9	9.5	10.6	9.0	8.9
Pb	Max. Qtr.	5	µg/m³	0.90	0.73	0.77	0.64	0.62	0.49	0.22	0.12	0.07
NO₂	Arith. Mean	14	ppm	0.013	0.013	0.012	0.013	0.013	0.014	0.014	0.013	0.013
O₃	2nd Max. 1-hr.	13	ppm	0.102	0.101	0.103	0.110	0.104	0.102	0.109	0.097	0.104
O₃	4th Max. 8-hr.	13	ppm	0.074	0.073	0.074	0.078	0.075	0.076	0.076	0.074	0.078
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO₂	Arith. Mean	20	ppm	0.0064	0.0060	0.0055	0.0048	0.0050	0.0045	0.0043	0.0040	0.0043
<b>Region 9</b>												
CO	2nd Max. 8-hr.	72	ppm	8.8	8.1	7.9	7.8	7.0	7.8	7.6	6.5	7.2
Pb	Max. Qtr.	38	µg/m³	0.84	0.61	0.57	0.44	0.41	0.25	0.19	0.13	0.10
NO₂	Arith. Mean	50	ppm	0.031	0.031	0.029	0.027	0.028	0.029	0.029	0.028	0.030
O₃	2nd Max. 1-hr.	99	ppm	0.164	0.152	0.149	0.161	0.151	0.155	0.137	0.141	0.143
O₃	4th Max. 8-hr.	99	ppm	0.109	0.102	0.099	0.107	0.103	0.104	0.097	0.098	0.099
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO₂	Arith. Mean	47	ppm	0.0051	0.0058	0.0045	0.0041	0.0046	0.0042	0.0036	0.0032	0.0034
<b>Region 10</b>												
CO	2nd Max. 8-hr.	27	ppm	12.6	11.7	11.4	11.3	10.2	10.4	9.3	9.4	9.2
Pb	Max. Qtr.	8	µg/m³	2.05	1.50	0.58	0.47	0.46	0.44	0.24	0.17	0.14
NO₂	Arith. Mean	—	ppm	—	—	—	—	—	—	—	—	—
O₃	2nd Max. 1-hr.	6	ppm	0.095	0.121	0.108	0.093	0.098	0.105	0.107	0.098	0.110
O₃	4th Max. 8-hr.	6	ppm	0.070	0.084	0.075	0.063	0.065	0.074	0.078	0.073	0.072
PM <sub>10</sub> *	Wtd. Arith. Mean	—	µg/m³	—	—	—	—	—	—	—	—	—
SO₂	Arith. Mean	5	ppm	0.0120	0.0126	0.0130	0.0115	0.0137	0.0122	0.0116	0.0106	0.0086

\* PM<sub>10</sub> trend data is not available for this 10-year period.

**Table A-13b.** National Air Quality Trends Statistics by EPA Region, 1990–1999

Statistic	# of Sites	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Region 1</b>												
CO	2nd Max. 8-hr.	18	ppm	6.0	5.5	5.6	4.8	5.9	5.3	4.8	4.1	3.7
Pb	Max. Qtr.	1	µg/m³	0.69	0.69	0.19	0.02	0.02	0.04	0.03	0.03	0.02
NO <sub>2</sub>	Arith. Mean	14	ppm	0.022	0.022	0.021	0.022	0.022	0.020	0.020	0.020	0.019
O <sub>3</sub>	2nd Max. 1-hr.	42	ppm	0.118	0.127	0.110	0.119	0.114	0.116	0.102	0.116	0.106
O <sub>3</sub>	4th Max. 8-hr.	42	ppm	0.090	0.097	0.086	0.087	0.086	0.089	0.080	0.089	0.083
PM <sub>10</sub>	Wtd. Arith. Mean	69	µg/m³	23.0	23.8	20.9	20.4	20.9	18.9	19.5	19.9	19.7
SO <sub>2</sub>	Arith. Mean	47	ppm	0.0080	0.0077	0.0072	0.0069	0.0068	0.0053	0.0052	0.0050	0.0050
<b>Region 2</b>												
CO	2nd Max. 8-hr.	28	ppm	5.8	5.8	5.3	4.7	5.5	4.8	4.2	3.7	3.4
Pb	Max. Qtr.	4	µg/m³	0.10	0.07	0.06	0.07	0.07	0.06	0.06	0.06	0.05
NO <sub>2</sub>	Arith. Mean	12	ppm	0.030	0.029	0.028	0.028	0.029	0.027	0.028	0.027	0.027
O <sub>3</sub>	2nd Max. 1-hr.	39	ppm	0.120	0.122	0.109	0.109	0.105	0.115	0.103	0.111	0.108
O <sub>3</sub>	4th Max. 8-hr.	39	ppm	0.094	0.099	0.085	0.088	0.085	0.095	0.082	0.092	0.088
PM <sub>10</sub>	Wtd. Arith. Mean	65	µg/m³	26.5	26.9	24.3	24.4	24.8	22.2	22.9	23.5	22.8
SO <sub>2</sub>	Arith. Mean	43	ppm	0.0090	0.0092	0.0085	0.0078	0.0079	0.0061	0.0062	0.0056	0.0055
<b>Region 3</b>												
CO	2nd Max. 8-hr.	41	ppm	5.2	4.7	4.4	4.4	4.7	4.0	3.7	3.5	3.4
Pb	Max. Qtr.	25	µg/m³	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03
NO <sub>2</sub>	Arith. Mean	35	ppm	0.022	0.021	0.021	0.021	0.022	0.020	0.021	0.020	0.019
O <sub>3</sub>	2nd Max. 1-hr.	74	ppm	0.110	0.117	0.102	0.116	0.111	0.117	0.105	0.116	0.115
O <sub>3</sub>	4th Max. 8-hr.	74	ppm	0.088	0.096	0.083	0.092	0.088	0.094	0.085	0.093	0.095
PM <sub>10</sub>	Wtd. Arith. Mean	71	µg/m³	29.4	30.2	26.5	26.6	27.3	26.1	24.9	24.9	24.7
SO <sub>2</sub>	Arith. Mean	76	ppm	0.0124	0.0119	0.0110	0.0111	0.0111	0.0084	0.0084	0.0088	0.0085
<b>Region 4</b>												
CO	2nd Max. 8-hr.	61	ppm	5.2	4.9	4.9	5.0	4.7	4.3	3.8	4.0	3.7
Pb	Max. Qtr.	25	µg/m³	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.02	0.03
NO <sub>2</sub>	Arith. Mean	29	ppm	0.014	0.013	0.014	0.014	0.014	0.014	0.014	0.014	0.014
O <sub>3</sub>	2nd Max. 1-hr.	131	ppm	0.103	0.096	0.095	0.103	0.099	0.104	0.101	0.102	0.111
O <sub>3</sub>	4th Max. 8-hr.	131	ppm	0.082	0.075	0.076	0.081	0.080	0.082	0.081	0.082	0.090
PM <sub>10</sub>	Wtd. Arith. Mean	146	µg/m³	29.3	28.2	26.4	25.7	25.4	24.8	23.8	23.7	24.4
SO <sub>2</sub>	Arith. Mean	76	ppm	0.0059	0.0056	0.0053	0.0054	0.0050	0.0042	0.0044	0.0044	0.0045
<b>Region 5</b>												
CO	2nd Max. 8-hr.	43	ppm	5.1	4.8	4.5	4.4	5.2	4.1	3.4	3.2	3.3
Pb	Max. Qtr.	44	µg/m³	0.16	0.10	0.08	0.08	0.08	0.07	0.06	0.06	0.05
NO <sub>2</sub>	Arith. Mean	13	ppm	0.021	0.021	0.022	0.022	0.023	0.023	0.023	0.022	0.022
O <sub>3</sub>	2nd Max. 1-hr.	135	ppm	0.102	0.110	0.098	0.097	0.104	0.110	0.103	0.101	0.105
O <sub>3</sub>	4th Max. 8-hr.	135	ppm	0.082	0.088	0.079	0.077	0.083	0.089	0.085	0.083	0.085
PM <sub>10</sub>	Wtd. Arith. Mean	165	µg/m³	30.4	29.7	27.5	26.2	27.8	27.0	24.5	24.6	26.0
SO <sub>2</sub>	Arith. Mean	111	ppm	0.0094	0.0093	0.0081	0.0083	0.0077	0.0061	0.0062	0.0059	0.0059

**Table A-13b.** National Air Quality Trends Statistics by EPA Region, 1990–1999 (continued)

Statistic	# of Sites	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Region 6</b>												
CO	2nd Max. 8-hr.	29	ppm	6.3	5.7	5.6	5.6	4.8	4.5	5.1	4.5	4.1
Pb	Max. Qtr.	17	µg/m³	0.14	0.13	0.10	0.10	0.07	0.10	0.09	0.05	0.06
NO <sub>2</sub>	Arith. Mean	24	ppm	0.014	0.014	0.015	0.014	0.015	0.015	0.015	0.015	0.014
O <sub>3</sub>	2nd Max. 1-hr.	71	ppm	0.121	0.113	0.109	0.111	0.110	0.121	0.110	0.114	0.116
O <sub>3</sub>	4th Max. 8-hr.	71	ppm	0.086	0.080	0.079	0.080	0.082	0.090	0.082	0.083	0.086
PM <sub>10</sub>	Wtd. Arith. Mean	86	µg/m³	26.3	24.7	24.7	24.0	24.2	25.2	24.3	22.7	23.8
SO <sub>2</sub>	Arith. Mean	27	ppm	0.0067	0.0063	0.0066	0.0055	0.0048	0.0047	0.0049	0.0044	0.0043
<b>Region 7</b>												
CO	2nd Max. 8-hr.	22	ppm	4.9	5.0	4.4	4.3	4.2	4.0	4.1	3.7	4.2
Pb	Max. Qtr.	19	µg/m³	0.03	0.03	0.02	0.02	0.01	0.01	0.02	0.03	0.04
NO <sub>2</sub>	Arith. Mean	12	ppm	0.015	0.015	0.016	0.015	0.016	0.016	0.016	0.016	0.017
O <sub>3</sub>	2nd Max. 1-hr.	29	ppm	0.091	0.093	0.092	0.088	0.099	0.102	0.094	0.095	0.100
O <sub>3</sub>	4th Max. 8-hr.	29	ppm	0.071	0.076	0.074	0.066	0.079	0.081	0.076	0.076	0.078
PM <sub>10</sub>	Wtd. Arith. Mean	50	µg/m³	30.3	29.6	29.0	27.9	28.7	28.3	28.3	26.4	26.7
SO <sub>2</sub>	Arith. Mean	28	ppm	0.0078	0.0074	0.0066	0.0065	0.0066	0.0054	0.0051	0.0047	0.0045
<b>Region 8</b>												
CO	2nd Max. 8-hr.	22	ppm	6.6	6.7	6.7	5.7	5.3	4.9	4.9	4.6	3.9
Pb	Max. Qtr.	8	µg/m³	0.07	0.07	0.06	0.06	0.04	0.04	0.03	0.03	0.04
NO <sub>2</sub>	Arith. Mean	12	ppm	0.012	0.012	0.013	0.013	0.014	0.013	0.013	0.013	0.013
O <sub>3</sub>	2nd Max. 1-hr.	19	ppm	0.090	0.088	0.084	0.082	0.085	0.085	0.088	0.083	0.086
O <sub>3</sub>	4th Max. 8-hr.	19	ppm	0.068	0.069	0.066	0.089	0.096	0.066	0.068	0.066	0.074
PM <sub>10</sub>	Wtd. Arith. Mean	112	µg/m³	24.2	25.2	24.0	22.8	22.4	19.6	19.9	19.0	19.1
SO <sub>2</sub>	Arith. Mean	27	ppm	0.0061	0.0058	0.0064	0.0062	0.0055	0.0049	0.0041	0.0034	0.0031
<b>Region 9</b>												
CO	2nd Max. 8-hr.	97	ppm	6.1	6.0	5.1	4.7	5.1	4.5	4.3	4.0	3.9
Pb	Max. Qtr.	27	µg/m³	0.07	0.06	0.04	0.04	0.03	0.03	0.03	0.03	0.03
NO <sub>2</sub>	Arith. Mean	79	ppm	0.022	0.022	0.021	0.020	0.021	0.020	0.019	0.018	0.018
O <sub>3</sub>	2nd Max. 1-hr.	152	ppm	0.128	0.127	0.125	0.121	0.117	0.120	0.115	0.103	0.114
O <sub>3</sub>	4th Max. 8-hr.	152	ppm	0.091	0.091	0.091	0.088	0.087	0.088	0.088	0.078	0.085
PM <sub>10</sub>	Wtd. Arith. Mean	120	µg/m³	37.8	36.8	32.1	31.1	30.2	30.1	28.3	28.8	26.3
SO <sub>2</sub>	Arith. Mean	36	ppm	0.0021	0.0021	0.0020	0.0018	0.0018	0.0018	0.0018	0.0018	0.0019
<b>Region 10</b>												
CO	2nd Max. 8-hr.	27	ppm	8.2	8.4	7.7	7.1	6.8	6.6	6.5	6.1	5.5
Pb	Max. Qtr.	5	µg/m³	0.06	0.06	0.04	0.05	0.05	0.05	0.04	0.05	0.06
NO <sub>2</sub>	Arith. Mean	—	ppm	—	—	—	—	—	—	—	—	—
O <sub>3</sub>	2nd Max. 1-hr.	14	ppm	0.100	0.088	0.089	0.081	0.088	0.086	0.097	0.076	0.098
O <sub>3</sub>	4th Max. 8-hr.	14	ppm	0.073	0.065	0.069	0.058	0.063	0.063	0.076	0.058	0.069
PM <sub>10</sub>	Wtd. Arith. Mean	70	µg/m³	31.1	31.9	30.4	29.9	26.4	23.0	23.0	23.2	20.7
SO <sub>2</sub>	Arith. Mean	9	ppm	0.0071	0.0070	0.0073	0.0066	0.0066	0.0059	0.0051	0.0047	0.0047

**Table A-14.** Maximum Air Quality Concentrations by County, 1999

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
AL	CALHOUN CO	116,034	ND	ND	ND	ND	ND	ND	IN	ND	ND
AL	CLAY CO	13,252	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
AL	COLBERT CO	51,666	ND	ND	ND	ND	ND	ND	IN	0.003	0.017
AL	DE KALB CO	54,651	ND	ND	ND	ND	ND	24	48	ND	ND
AL	ELMORE CO	49,210	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
AL	ESCAMBIA CO	35,518	ND	ND	ND	ND	ND	25	53	ND	ND
AL	ETOWAH CO	99,840	ND	ND	ND	ND	ND	30	66	ND	ND
AL	FRANKLIN CO	27,814	ND	ND	ND	ND	ND	ND	IN	ND	ND
AL	HOUSTON CO	81,331	ND	ND	ND	ND	ND	IN	IN	ND	ND
AL	JACKSON CO	47,796	ND	ND	ND	ND	ND	ND	ND	0.005	0.026
AL	JEFFERSON CO	651,525	5	ND	ND	0.13	0.09	IN	108	IN	0.026
AL	LAWRENCE CO	31,513	ND	ND	ND	0.10	0.09	ND	ND	0.002	0.011
AL	LIMESTONE CO	54,135	ND	ND	ND	ND	ND	ND	IN	ND	ND
AL	MADISON CO	238,912	4	ND	ND	0.11	0.09	24*	54*	ND	ND
AL	MARENGO CO	23,084	ND	ND	ND	ND	ND	29	55	ND	ND
AL	MOBILE CO	378,643	ND	ND	ND	0.12	0.09	25	84	0.008	0.041
AL	MONTGOMERY CO	209,085	ND	ND	ND	0.11	0.09	24	48	ND	ND
AL	MORGAN CO	100,043	ND	ND	ND	ND	ND	IN	43	ND	ND
AL	PIKE CO	27,595	ND	0.83	ND	ND	ND	23	40	ND	ND
AL	RUSSELL CO	46,860	ND	ND	ND	ND	ND	IN	49	ND	ND
AL	SHELBY CO	99,358	ND	ND	0.010	0.12	0.10	28	57	ND	ND
AL	SUMTER CO	16,174	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
AL	TALLADEGA CO	74,107	ND	ND	ND	ND	ND	26	59	ND	ND
AL	TUSCALOOSA CO	150,522	ND	ND	ND	ND	ND	28	61	ND	ND
AL	WALKER CO	67,670	ND	ND	ND	ND	ND	25	56	ND	ND
AK	ANCHORAGE BOROUGH	226,338	8	ND	ND	ND	ND	19*	73*	ND	ND
AK	FAIRBANKS NORTH STAR BOROUGH	77,720	10	ND	ND	ND	ND	IN	51	ND	ND
AK	JUNEAU BOROUGH	26,751	ND	ND	ND	ND	ND	IN	27	ND	ND
AK	MATANUSKA-SUSITNA BOROUGH	39,683	ND	ND	ND	ND	ND	16	149	ND	ND
AK	YUKON-KOYUKUK CA	8,478	ND	ND	ND	0.06	0.05	ND	ND	ND	ND
AZ	COCHISE CO	97,624	ND	ND	ND	0.08	0.07	IN	IN*	ND	ND
AZ	COCONINO CO	96,591	ND	ND	ND	0.09	0.08	IN	IN	ND	ND
AZ	GILA CO	40,216	ND	ND	ND	0.09	0.08	IN	IN	ND	ND
AZ	GRAHAM CO	26,554	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AZ	MARICOPA CO	2,122,101	8	ND	0.041	0.12	0.09	60	219	0.003	0.014
AZ	NAVAJO CO	77,658	ND	ND	ND	ND	ND	IN	IN	ND	ND
AZ	PIMA CO	666,880	4	ND	0.019	0.09	0.07	49*	207*	0.002	0.005
AZ	PINAL CO	116,379	ND	ND	ND	ND	ND	ND	ND	IN	0.018
AZ	SANTA CRUZ CO	29,676	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AZ	YAVAPAI CO	107,714	ND	ND	ND	0.09	0.08	IN	IN	ND	ND
AZ	YUMA CO	106,895	ND	ND	ND	0.09	0.08	IN	IN*	ND	ND
AR	ARKANSAS CO	21,653	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	ASHLEY CO	24,319	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	CRAIGHEAD CO	68,956	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	CRITTENDEN CO	49,939	ND	ND	ND	0.13	0.10	IN	IN*	ND	ND
AR	GARLAND CO	73,397	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	JEFFERSON CO	85,487	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	MARION CO	12,001	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	MILLER CO	38,467	ND	ND	ND	ND	ND	IN	IN*	IN	0.019
AR	MONTGOMERY CO	7,841	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
AR	NEWTON CO	7,666	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
AR	OUACHITA CO	30,574	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	PHILLIPS CO	28,838	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	POLK CO	17,347	ND	ND	ND	ND	ND	IN	IN	ND	ND
AR	POPE CO	45,883	ND	ND	ND	ND	ND	IN	IN*	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
AR	PULASKI CO	349,660	4	ND	0.011	0.11	0.09	32*	70*	0.002	0.005
AR	SEBASTIAN CO	99,590	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	UNION CO	46,719	ND	ND	ND	ND	ND	IN	IN*	0.005	0.022
AR	WASHINGTON CO	113,409	ND	ND	ND	ND	ND	IN	IN*	ND	ND
AR	WHITE CO	54,676	ND	ND	ND	ND	ND	IN	IN*	ND	ND
CA	ALAMEDA CO	1,279,182	5	0.00	0.022	0.14	0.09	26*	94*	ND	ND
CA	AMADOR CO	30,039	1	ND	ND	0.12	0.10	ND	ND	ND	ND
CA	BUTTE CO	182,120	4	0.00	0.015	0.11	0.09	29*	139*	ND	ND
CA	CALAVERAS CO	31,998	1	ND	ND	0.12	0.10	21*	64*	ND	ND
CA	COLUSA CO	16,275	ND	ND	ND	0.09	0.08	30	138	ND	ND
CA	CONTRA COSTA CO	803,732	3	0.00	0.018	0.13	0.09	26*	89*	0.003	0.020
CA	DEL NORTE CO	23,460	ND	ND	ND	ND	ND	18	39	ND	ND
CA	EL DORADO CO	125,995	2	ND	0.011	0.14	0.10	21*	42*	ND	ND
CA	FRESNO CO	667,490	8	0.00	0.024	0.15	0.11	47*	130*	ND	ND
CA	GLENN CO	24,798	ND	ND	ND	0.10	0.08	26	121	ND	ND
CA	HUMBOLDT CO	119,118	ND	ND	ND	ND	ND	19*	51*	ND	ND
CA	IMPERIAL CO	109,303	14	0.00	0.018	0.17	0.09	85	369	0.003	0.013
CA	INYO CO	18,281	ND	ND	ND	0.09	0.08	51*	1918*	ND	ND
CA	KERN CO	543,477	4	0.00	0.025	0.14	0.11	61*	142*	IN	0.006
CA	KINGS CO	101,469	ND	ND	0.016	0.13	0.10	54	146	ND	ND
CA	LAKE CO	50,631	ND	ND	ND	0.09	0.07	IN	28	ND	ND
CA	LASSEN CO	27,598	ND	ND	ND	ND	ND	IN	96	ND	ND
CA	LOS ANGELES CO	8,863,164	11	0.09	0.051	0.14	0.10	56	119	0.005	0.019
CA	MADERA CO	88,090	ND	ND	0.014	0.10	0.09	ND	ND	ND	ND
CA	MARIN CO	230,096	3	ND	0.018	0.10	0.06	22*	66*	ND	ND
CA	MARIPOSA CO	14,302	ND	ND	ND	0.11	0.10	IN	IN	ND	ND
CA	MENDOCINO CO	80,345	4	ND	0.010	0.08	0.06	25*	67*	ND	ND
CA	MERCED CO	178,403	ND	ND	0.012	0.13	0.11	IN	IN	ND	ND
CA	MODOC CO	9,678	ND	ND	ND	ND	ND	26	73	ND	ND
CA	MONO CO	9,956	ND	ND	ND	ND	ND	IN	33	ND	ND
CA	MONTEREY CO	355,660	2	ND	0.010	0.08	0.06	29	76	ND	ND
CA	NAPA CO	110,765	3	ND	0.014	0.11	0.08	19*	54*	ND	ND
CA	NEVADA CO	78,510	ND	ND	ND	0.11	0.09	25	78	ND	ND
CA	ORANGE CO	2,410,556	6	ND	0.035	0.11	0.08	37	73	0.002	0.005
CA	PLACER CO	172,796	2	0.00	0.012	0.13	0.10	27*	92*	ND	ND
CA	PLUMAS CO	19,739	ND	ND	ND	0.08	0.07	27*	103*	ND	ND
CA	RIVERSIDE CO	1,170,413	4	0.05	0.025	0.14	0.12	72	134	0.002	0.009
CA	SACRAMENTO CO	1,041,219	6	ND	0.021	0.14	0.11	34*	143*	0.004	0.012
CA	SAN BENITO CO	36,697	ND	ND	ND	0.11	0.08	23*	53*	ND	ND
CA	SAN BERNARDINO CO	1,418,380	4	0.05	0.039	0.16	0.13	60	108	0.002	0.009
CA	SAN DIEGO CO	2,498,016	5	0.00	0.026	0.11	0.09	52	114	0.003	0.016
CA	SAN FRANCISCO CO	723,959	5	0.00	0.021	0.07	0.05	27*	70*	0.002	0.006
CA	SAN JOAQUIN CO	480,628	6	0.00	0.024	0.13	0.09	37*	123*	ND	ND
CA	SAN LUIS OBISPO CO	217,162	3	ND	0.013	0.09	0.08	27	82	0.005	0.027
CA	SAN MATEO CO	649,623	4	ND	0.019	0.08	0.05	27*	75*	ND	ND
CA	SANTA BARBARA CO	369,608	4	0.00	0.022	0.10	0.08	29*	54*	0.002	0.003
CA	SANTA CLARA CO	1,497,577	6	0.00	0.026	0.12	0.08	29*	94*	ND	ND
CA	SANTA CRUZ CO	229,734	1	ND	0.005	0.08	0.07	32*	75*	0.001	0.002
CA	SHASTA CO	147,036	ND	ND	ND	0.11	0.09	IN	42	ND	ND
CA	SIERRA CO	3,318	ND	ND	ND	ND	ND	25	53	ND	ND
CA	SISKIYOU CO	43,531	ND	ND	ND	0.07	0.06	17	47	ND	ND
CA	SOLANO CO	340,421	5	ND	0.014	0.12	0.09	20*	64*	0.002	0.006
CA	SONOMA CO	388,222	3	ND	0.014	0.10	0.08	19*	65*	ND	ND
CA	STANISLAUS CO	370,522	6	0.00	0.022	0.11	0.09	43	137	ND	ND
CA	SUTTER CO	64,415	4	ND	0.014	0.11	0.08	39*	156*	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
CA	TEHAMA CO	49,625	ND	ND	ND	0.11	0.10	IN	IN	ND	ND
CA	TRINITY CO	13,063	ND	ND	ND	ND	ND	IN	78	ND	ND
CA	TULARE CO	311,921	4	ND	0.021	0.13	0.11	56*	137*	ND	ND
CA	TUOLUMNE CO	48,456	3	ND	ND	0.11	0.10	ND	ND	ND	ND
CA	VENTURA CO	669,016	3	0.00	0.022	0.13	0.10	32*	63*	0.002	0.005
CA	YOLO CO	141,092	1	ND	0.012	0.12	0.09	33	144	ND	ND
CO	ADAMS CO	265,038	4	0.08	0.020	0.09	0.07	37*	142*	0.003	0.012
CO	ALAMOSA CO	13,617	ND	ND	ND	ND	ND	IN	129	ND	ND
CO	ARAPAHOE CO	391,511	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
CO	ARCHULETA CO	5,345	ND	ND	ND	ND	ND	IN	82	ND	ND
CO	BOULDER CO	225,339	4	ND	ND	0.10	0.08	IN	56	ND	ND
CO	DELTA CO	20,980	ND	ND	ND	ND	ND	26*	57*	ND	ND
CO	DENVER CO	467,610	5	0.02	IN	0.09	0.07	29*	83*	IN	0.014
CO	DOUGLAS CO	60,391	ND	ND	ND	0.09	0.08	IN	24	ND	ND
CO	EAGLE CO	21,928	ND	ND	ND	ND	ND	IN	36	ND	ND
CO	EL PASO CO	397,014	5	0.01	0.019	0.08	0.06	23*	80*	0.004	0.020
CO	FREMONT CO	32,273	ND	ND	ND	ND	ND	15*	41*	ND	ND
CO	GARFIELD CO	29,974	ND	ND	ND	ND	ND	IN	51	ND	ND
CO	GUNNISON CO	10,273	ND	ND	ND	ND	ND	30	111	ND	ND
CO	JEFFERSON CO	438,430	4	ND	0.010	0.11	0.08	14*	35*	ND	ND
CO	LAKE CO	6,007	ND	0.02	ND	ND	ND	ND	ND	ND	ND
CO	LA PLATA CO	32,284	ND	ND	ND	ND	ND	36	98	ND	ND
CO	LARIMER CO	186,136	5	ND	ND	0.09	0.07	16*	36*	ND	ND
CO	MESA CO	93,145	5	ND	ND	ND	ND	20	52	ND	ND
CO	MONTEZUMA CO	18,672	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
CO	MONTROSE CO	24,423	ND	ND	ND	ND	ND	IN	88	ND	ND
CO	PITKIN CO	12,661	ND	ND	ND	ND	ND	31	73	ND	ND
CO	PROWERS CO	13,347	ND	ND	ND	ND	ND	29*	145*	ND	ND
CO	PUEBLO CO	123,051	ND	ND	ND	ND	ND	IN	51	ND	ND
CO	ROUTT CO	14,088	ND	ND	ND	ND	ND	IN	109	ND	ND
CO	SAN MIGUEL CO	3,653	ND	ND	ND	ND	ND	IN	66	ND	ND
CO	SUMMIT CO	12,881	ND	ND	ND	ND	ND	18*	54*	ND	ND
CO	TELLER CO	12,468	ND	ND	ND	ND	ND	IN	93	ND	ND
CO	WELD CO	131,821	3	ND	ND	0.09	0.07	18*	47*	ND	ND
CT	FAIRFIELD CO	827,645	4	ND	0.018	0.15	0.11	29*	49*	0.006	0.026
CT	HARTFORD CO	851,783	6	ND	0.018	0.13	0.09	18	81	0.004	0.019
CT	LITCHFIELD CO	174,092	ND	ND	ND	0.13	0.10	16*	41*	ND	ND
CT	MIDDLESEX CO	143,196	ND	ND	ND	0.16	0.11	ND	ND	ND	ND
CT	NEW HAVEN CO	804,219	3	0.01	0.026	0.15	0.11	27*	76*	0.007	0.027
CT	NEW LONDON CO	254,957	ND	ND	0.13	0.10	17	36	IN	0.008	
CT	TOLLAND CO	128,699	ND	ND	IN	0.12	0.09	ND	ND	IN	0.009
CT	WINDHAM CO	102,525	ND	ND	ND	ND	ND	ND	IN	ND	ND
DE	KENT CO	110,993	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
DE	NEW CASTLE CO	441,946	3	ND	0.018	0.14	0.10	24*	49*	0.008	0.049
DE	SUSSEX CO	113,229	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
DC	WASHINGTON	606,900	6	0.03	0.024	0.13	0.10	IN	IN	0.008	0.020
FL	ALACHUA CO	181,596	ND	ND	ND	0.10	0.08	22*	39*	ND	ND
FL	BAKER CO	18,486	ND	ND	ND	0.08	0.08	ND	ND	ND	ND
FL	BAY CO	126,994	ND	ND	ND	ND	ND	IN	50	ND	ND
FL	BREVARD CO	398,978	ND	ND	ND	0.09	0.08	20*	53*	ND	ND
FL	BROWARD CO	1,255,488	5	0.02	0.011	0.10	0.08	19*	34*	0.003	0.015
FL	COLLIER CO	152,099	ND	ND	ND	ND	ND	17	30	ND	ND
FL	DADE CO	1,937,094	4	ND	0.017	0.11	0.08	25*	45*	0.001	0.003
FL	DUVAL CO	672,971	4	0.02	0.016	0.10	0.08	28	53	0.004	0.020
FL	ESCAMBIA CO	262,798	ND	ND	IN	0.11	0.09	24*	57*	0.004	0.029

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
FL	GULF CO	11,504	ND	ND	ND	ND	IN	IN	ND	ND	ND
FL	HAMILTON CO	10,930	ND	ND	ND	ND	25*	40*	0.004	0.013	
FL	HILLSBOROUGH CO	834,054	5	1.02	0.010	0.12	0.09	35	81	0.008	0.060
FL	HOLMES CO	15,778	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
FL	LAKE CO	152,104	ND	ND	ND	ND	ND	19	49	ND	ND
FL	LEE CO	335,113	ND	ND	ND	0.10	0.08	19	32	ND	ND
FL	LEON CO	192,493	ND	ND	ND	0.09	0.08	19	55	ND	ND
FL	MANATEE CO	211,707	ND	ND	0.007	0.11	0.08	24	42	0.004	0.017
FL	MARION CO	194,833	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
FL	MONROE CO	78,024	ND	ND	ND	ND	ND	15	30	ND	ND
FL	NASSAU CO	43,941	ND	ND	ND	ND	ND	28*	59*	0.004	0.036
FL	ORANGE CO	677,491	3	ND	0.012	0.10	0.08	27*	45*	0.002	0.007
FL	OSCEOLA CO	107,728	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
FL	PALM BEACH CO	863,518	3	0.00	0.013	0.10	0.08	20*	33*	0.002	0.013
FL	PASCO CO	281,131	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
FL	PINELLAS CO	851,659	3	0.01	0.016	0.11	0.09	25*	49*	0.007	0.038
FL	POLK CO	405,382	ND	ND	ND	0.10	0.08	22	50	0.007	0.019
FL	PUTNAM CO	65,070	ND	ND	ND	ND	ND	25*	45*	0.003	0.015
FL	ST LUCIE CO	150,171	ND	ND	0.010	0.08	0.07	20	39	ND	ND
FL	SARASOTA CO	277,776	3	ND	ND	0.11	0.09	20*	42*	0.002	0.011
FL	SEMINOLE CO	287,529	ND	ND	ND	0.10	0.08	IN	IN	ND	ND
FL	VOLUSIA CO	370,712	ND	ND	ND	0.09	0.08	21*	57*	ND	ND
GA	BARTOW CO	55,911	ND	ND	ND	ND	ND	ND	ND	0.003	0.012
GA	BIBB CO	149,967	ND	ND	ND	0.13	0.11	IN	53	ND	ND
GA	CHATHAM CO	216,935	ND	ND	ND	0.11	0.08	27	59	0.003	0.018
GA	CHATTOOGA CO	22,242	ND	ND	ND	ND	ND	22	59	ND	ND
GA	CHEROKEE CO	90,204	ND	ND	ND	0.10	IN	ND	ND	ND	ND
GA	COBB CO	447,745	ND	ND	ND	0.11	ND	ND	ND	ND	ND
GA	COWETA CO	53,853	ND	ND	ND	0.13	0.11	ND	ND	ND	ND
GA	DAWSON CO	9,429	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
GA	DE KALB CO	545,837	4	0.05	0.020	0.15	0.11	23	44	ND	ND
GA	DOUGHERTY CO	96,311	ND	ND	ND	ND	ND	26	60	ND	ND
GA	DOUGLAS CO	71,120	ND	ND	ND	0.12	0.11	IN	47	ND	ND
GA	FANNIN CO	15,992	ND	ND	ND	0.10	0.08	ND	ND	0.004	0.018
GA	FAYETTE CO	62,415	ND	ND	ND	0.13	0.11	ND	ND	ND	ND
GA	FLOYD CO	81,251	ND	ND	ND	ND	ND	IN	IN	0.003	0.021
GA	FULTON CO	648,951	3	ND	0.024	0.16	0.12	35	72	0.005	0.023
GA	GLYNN CO	62,496	ND	ND	ND	0.09	0.08	26	45	ND	ND
GA	GWINNETT CO	352,910	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
GA	HENRY CO	58,741	ND	ND	ND	0.15	0.13	ND	ND	ND	ND
GA	MUSCOGEE CO	179,278	ND	1.04	ND	0.11	0.10	24	45	ND	ND
GA	PAULDING CO	41,611	ND	ND	0.007	0.12	0.10	ND	ND	ND	ND
GA	RICHMOND CO	189,719	ND	ND	ND	0.11	0.09	IN	49	ND	ND
GA	ROCKDALE CO	54,091	ND	ND	0.007	0.16	0.12	ND	ND	ND	ND
GA	SPALDING CO	54,457	ND	ND	ND	ND	ND	IN	IN	ND	ND
GA	SUMTER CO	30,228	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
GA	WALKER CO	58,340	ND	ND	ND	ND	ND	26	57	ND	ND
GA	WASHINGTON CO	19,112	ND	ND	ND	ND	ND	27	59	ND	ND
HI	HONOLULU CO	836,231	2	ND	0.004	0.05	0.05	15	41	0.001	0.004
HI	KAUAI CO	51,177	ND	ND	ND	ND	ND	IN	26	ND	ND
HI	MAUI CO	100,374	ND	ND	ND	ND	ND	22	97	ND	ND
ID	ADA CO	205,775	5	ND	0.021	ND	ND	31	106	ND	ND
ID	BANNOCK CO	66,026	ND	ND	IN	ND	ND	30*	176*	0.007	0.046
ID	BLAINE CO	13,552	ND	ND	ND	ND	ND	26*	59*	ND	ND
ID	BONNER CO	26,622	ND	ND	ND	ND	ND	21	64	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
ID	BONNEVILLE CO	72,207	ND	ND	ND	ND	IN	IN	ND	ND	ND
ID	BUTTE CO	2,918	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
ID	CANYON CO	90,076	6	ND	ND	ND	ND	36*	101*	ND	ND
ID	CARIBOU CO	6,963	ND	ND	ND	ND	ND	25*	78*	0.004	0.047
ID	KOOTENAI CO	69,795	ND	ND	ND	ND	ND	22*	97*	ND	ND
ID	LEMHI CO	6,899	ND	ND	ND	ND	ND	37*	95*	ND	ND
ID	LEWIS CO	3,516	ND	ND	ND	ND	ND	IN	72	ND	ND
ID	MADISON CO	23,674	ND	ND	ND	ND	ND	26*	74*	ND	ND
ID	MINIDOKA CO	19,361	ND	ND	ND	ND	ND	25*	63*	ND	ND
ID	NEZ PERCE CO	33,754	5	ND	ND	ND	ND	31*	65*	ND	ND
ID	SHOSHONE CO	13,931	ND	0.05	ND	ND	ND	19	75	ND	ND
ID	TWIN FALLS CO	53,580	ND	ND	ND	ND	ND	24*	54*	ND	ND
IL	ADAMS CO	66,090	ND	ND	ND	0.09	0.08	21	46	0.005	0.033
IL	CHAMPAIGN CO	173,025	ND	ND	ND	0.11	0.09	23	47	0.002	0.010
IL	COOK CO	5,105,067	5	0.06	0.032	0.11	0.10	40	120	0.009	0.044
IL	DU PAGE CO	781,666	ND	ND	ND	0.09	0.08	ND	IN	0.004	0.019
IL	EFFINGHAM CO	31,704	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
IL	HAMILTON CO	8,499	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
IL	JACKSON CO	61,067	ND	ND	ND	ND	ND	22	55	ND	ND
IL	JERSEY CO	20,539	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
IL	KANE CO	317,471	ND	ND	ND	0.09	0.08	IN	42	ND	ND
IL	LAKE CO	516,418	ND	ND	IN	0.11	0.09	ND	ND	ND	ND
IL	LA SALLE CO	106,913	ND	ND	ND	ND	ND	28	149	ND	ND
IL	MC HENRY CO	183,241	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
IL	MACON CO	117,206	ND	ND	ND	0.10	0.09	ND	IN	0.006	0.027
IL	MACOUPIN CO	47,679	ND	0.03	ND	0.10	0.09	ND	IN	0.003	0.012
IL	MADISON CO	249,238	2	2.50	ND	0.12	0.09	44	120	0.009	0.059
IL	PEORIA CO	182,827	5	0.02	ND	0.10	0.08	23	52	0.007	0.036
IL	RANDOLPH CO	34,583	ND	ND	ND	0.10	0.08	ND	ND	0.005	0.065
IL	ROCK ISLAND CO	148,723	ND	ND	ND	0.09	0.07	ND	IN	0.003	0.010
IL	ST CLAIR CO	262,852	ND	0.09	0.019	0.11	0.08	32	79	0.008	0.036
IL	SANGAMON CO	178,386	2	ND	ND	0.10	0.08	20	45	0.006	0.059
IL	TAZEWELL CO	123,692	ND	ND	ND	ND	ND	ND	IN	0.005	0.035
IL	WABASH CO	13,111	ND	ND	ND	ND	ND	ND	ND	IN	0.032
IL	WILL CO	357,313	1	ND	0.010	0.10	0.09	23	52	0.005	0.023
IL	WINNEBAGO CO	252,913	4	ND	ND	0.09	0.08	ND	IN	ND	ND
IN	ALLEN CO	300,836	3	ND	ND	0.10	0.09	IN	IN	ND	ND
IN	CLARK CO	87,777	ND	ND	ND	0.11	0.09	IN	57	ND	ND
IN	DAVIESS CO	27,533	ND	ND	ND	ND	ND	ND	ND	IN	0.030
IN	DEARBORN CO	38,835	ND	ND	ND	ND	ND	ND	ND	0.008	0.030
IN	DE KALB CO	35,324	ND	ND	ND	ND	ND	IN	IN	ND	ND
IN	DELAWARE CO	119,659	ND	0.76	ND	ND	ND	ND	ND	ND	ND
IN	DUBOIS CO	36,616	ND	ND	ND	ND	ND	26*	54*	ND	ND
IN	ELKHART CO	156,198	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
IN	FLOYD CO	64,404	ND	ND	ND	0.12	0.09	ND	ND	0.007	0.032
IN	FOUNTAIN CO	17,808	ND	ND	ND	ND	ND	ND	ND	IN	0.049
IN	GIBSON CO	31,913	ND	ND	IN	0.10	0.08	ND	ND	IN	0.057
IN	HAMILTON CO	108,936	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
IN	HANCOCK CO	45,527	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
IN	HENDRICKS CO	75,717	IN	ND	IN	ND	ND	IN	IN	IN	0.014
IN	JASPER CO	24,960	ND	ND	ND	ND	ND	IN	IN	0.003	0.015
IN	JEFFERSON CO	29,797	ND	ND	ND	ND	ND	ND	ND	0.007	0.023
IN	JOHNSON CO	88,109	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
IN	LAKE CO	475,594	3	0.08	0.019	0.11	0.10	35	166	0.007	0.032
IN	LA PORTE CO	107,066	ND	ND	ND	0.11	0.09	ND	IN	0.004	0.014

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
IN	MADISON CO	130,669	ND	ND	0.11	0.09	IN	IN	ND	ND	
IN	MARION CO	797,159	3	0.12	0.018	0.11	0.10	27*	53*	0.007	0.024
IN	MORGAN CO	55,920	ND	ND	0.11	0.09	ND	ND	ND	ND	
IN	PERRY CO	19,107	ND	ND	ND	0.12	0.09	IN	IN	IN	0.029
IN	PIKE CO	12,509	ND	ND	ND	ND	ND	ND	ND	IN	0.037
IN	PORTER CO	128,932	ND	ND	ND	0.12	0.10	26	79	0.005	0.020
IN	POSEY CO	25,968	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
IN	ST JOSEPH CO	247,052	ND	ND	IN	0.11	0.09	IN	49	ND	ND
IN	SPENCER CO	19,490	ND	ND	0.008	ND	ND	ND	IN	0.008	0.028
IN	SULLIVAN CO	18,993	ND	ND	ND	ND	ND	ND	ND	IN	0.019
IN	VANDERBURGH CO	165,058	4	ND	IN	0.11	0.10	26	60	0.007	0.022
IN	VERMILLION CO	16,773	ND	ND	ND	ND	ND	ND	IN	ND	ND
IN	VIGO CO	106,107	ND	ND	ND	0.09	0.08	IN	IN	0.006	0.025
IN	WARRICK CO	44,920	ND	ND	ND	0.11	0.10	ND	ND	IN	0.087
IN	WAYNE CO	71,951	ND	ND	ND	ND	ND	ND	ND	0.006	0.041
IA	BLACK HAWK CO	123,798	ND	ND	ND	ND	ND	IN	IN	ND	ND
IA	CERRO GORDO CO	46,733	ND	ND	ND	ND	ND	38	149	0.006	0.123
IA	CLINTON CO	51,040	ND	ND	ND	0.10	0.08	26	78	0.004	0.021
IA	DELAWARE CO	18,035	ND	ND	ND	ND	ND	IN	IN	ND	ND
IA	HARRISON CO	14,730	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
IA	LEE CO	38,687	ND	ND	ND	ND	ND	ND	ND	0.002	0.020
IA	LINN CO	168,767	2	ND	ND	0.10	0.08	IN	54	0.005	0.071
IA	MUSCATINE CO	39,907	ND	ND	ND	ND	ND	IN	67	0.010	0.129
IA	PALO ALTO CO	10,669	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
IA	POLK CO	327,140	4	ND	ND	0.07	0.06	IN	76	ND	ND
IA	POTTAWATTAMIE CO	82,628	ND	ND	ND	ND	ND	IN	IN	ND	ND
IA	SCOTT CO	150,979	ND	ND	ND	0.10	0.08	44	177	0.004	0.014
IA	STORY CO	74,252	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
IA	VAN BUREN CO	7,676	ND	ND	ND	0.09	0.08	ND	ND	0.002	0.011
IA	WARREN CO	36,033	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
IA	WOODBURY CO	98,276	ND	ND	ND	ND	ND	28	73	ND	ND
KS	CLOUD CO	11,023	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	FORD CO	27,463	ND	ND	ND	ND	ND	31	89	ND	ND
KS	GREELEY CO	1,774	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	JOHNSON CO	355,054	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	KEARNEY CO	4,027	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	LINN CO	8,254	1	ND	0.004	0.10	0.08	ND	ND	0.002	0.007
KS	MONTGOMERY CO	38,816	ND	ND	ND	ND	ND	26	68	0.007	0.046
KS	MORTON CO	3,480	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	NEOSHO CO	17,035	ND	ND	ND	ND	ND	35	98	ND	ND
KS	PAWNEE CO	7,555	ND	ND	ND	ND	ND	ND	IN	ND	ND
KS	SEDWICK CO	403,662	5	ND	ND	0.10	0.08	31	86	ND	ND
KS	SHAWNEE CO	160,976	ND	ND	ND	ND	ND	25	74	ND	ND
KS	SHERMAN CO	6,926	ND	ND	ND	ND	ND	31	120	ND	ND
KS	SUMNER CO	25,841	IN	ND	ND	0.10	IN	ND	ND	ND	ND
KS	WYANDOTTE CO	161,993	5	ND	IN	0.09	0.08	40	118	IN	0.016
KY	BELL CO	31,506	2	ND	ND	0.11	0.08	IN	48	ND	ND
KY	BOONE CO	57,589	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
KY	BOYD CO	51,150	1	ND	0.016	0.12	0.09	39	89	0.008	0.024
KY	BULLITT CO	47,567	ND	ND	0.014	0.11	0.09	25	56	ND	ND
KY	CAMPBELL CO	83,866	ND	ND	0.017	0.10	0.09	26	46	0.006	0.025
KY	CARTER CO	24,340	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
KY	CHRISTIAN CO	68,941	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
KY	DAVIES CO	87,189	1	ND	0.011	0.10	0.09	25	63	0.006	0.024
KY	EDMONSON CO	10,357	ND	ND	ND	0.12	0.10	ND	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
KY	FAYETTE CO	225,366	2	ND	0.013	0.11	0.09	23	54	0.008	0.020
KY	FLOYD CO	43,586	ND	ND	ND	ND	ND	23	47	ND	ND
KY	GRAVES CO	33,550	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
KY	GREENUP CO	36,742	ND	ND	ND	0.12	0.10	ND	ND	0.006	0.026
KY	HANCOCK CO	7,864	ND	ND	ND	0.11	0.09	ND	ND	0.006	0.031
KY	HARDIN CO	89,240	ND	ND	ND	0.11	0.09	IN	39	ND	ND
KY	HARLAN CO	36,574	ND	ND	ND	ND	ND	IN	44	ND	ND
KY	HENDERSON CO	43,044	2	ND	0.016	0.11	0.10	24	59	0.007	0.056
KY	JEFFERSON CO	664,937	5	ND	0.014	0.12	0.10	28	60	0.007	0.027
KY	JESSAMINE CO	30,508	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
KY	KENTON CO	142,031	3	ND	0.017	0.11	0.09	20	52	ND	ND
KY	LAWRENCE CO	13,998	ND	ND	ND	ND	ND	IN	IN	ND	ND
KY	LIVINGSTON CO	9,062	ND	ND	ND	0.12	0.10	IN	61	0.005	0.024
KY	MC CRACKEN CO	62,879	2	ND	0.011	0.11	0.09	15	58	0.005	0.027
KY	MC LEAN CO	9,628	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
KY	MADISON CO	57,508	ND	ND	ND	ND	ND	IN	46	ND	ND
KY	MARSHALL CO	27,205	ND	ND	ND	ND	ND	IN	61	ND	ND
KY	OLDHAM CO	33,263	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
KY	PERRY CO	30,283	ND	ND	ND	0.10	0.07	24	45	ND	ND
KY	PIKE CO	72,583	ND	ND	ND	0.10	0.08	30	57	ND	ND
KY	PULASKI CO	49,489	ND	ND	ND	0.10	0.10	IN	45	ND	ND
KY	SCOTT CO	23,867	ND	ND	ND	0.11	0.08	ND	ND	ND	ND
KY	SIMPSON CO	15,145	ND	ND	0.009	0.12	0.10	ND	ND	ND	ND
KY	TRIGG CO	10,361	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
KY	WARREN CO	76,673	ND	ND	ND	ND	ND	21	45	ND	ND
KY	WHITEY CO	33,326	ND	ND	ND	ND	ND	IN	48	ND	ND
LA	ASCENSION PAR	58,214	ND	ND	0.12	0.09	ND	ND	ND	ND	ND
LA	BEAUREGARD PAR	30,083	ND	ND	0.007	0.10	0.08	ND	ND	ND	ND
LA	BOSSIER PAR	86,088	ND	ND	ND	0.11	0.09	ND	ND	0.002	0.006
LA	CADDY PAR	248,253	ND	ND	ND	0.10	0.09	22*	41*	ND	ND
LA	CALCASIEU PAR	168,134	ND	ND	0.005	0.13	0.09	ND	ND	0.004	0.015
LA	EAST BATON ROUGE PAR	380,105	5	0.06	0.019	0.12	0.10	IN	50	0.005	0.025
LA	GRANT PAR	17,526	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
LA	IBERVILLE PAR	31,049	ND	ND	0.009	0.12	0.09	ND	ND	ND	ND
LA	JEFFERSON PAR	448,306	ND	ND	0.011	0.11	0.09	ND	ND	ND	ND
LA	LAFAYETTE PAR	164,762	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
LA	LAFOURCHE PAR	85,860	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
LA	LIVINGSTON PAR	70,526	ND	ND	0.005	0.11	0.09	ND	ND	ND	ND
LA	ORLEANS PAR	496,938	3	0.03	0.022	0.09	0.08	25*	55*	ND	ND
LA	OUACHITA PAR	142,191	ND	ND	ND	0.10	0.08	ND	ND	0.003	0.010
LA	POINTE COUPEE PAR	22,540	ND	ND	0.009	0.11	0.08	ND	ND	ND	ND
LA	ST BERNARD PAR	66,631	ND	ND	ND	0.10	0.08	ND	ND	0.005	0.023
LA	ST CHARLES PAR	42,437	ND	ND	ND	0.11	0.09	27	60	ND	ND
LA	ST JAMES PAR	20,879	ND	ND	0.012	0.12	0.09	ND	ND	ND	ND
LA	ST JOHN THE BAPTIST PAR	39,996	ND	0.08	ND	0.11	0.09	ND	ND	ND	ND
LA	ST MARY PAR	58,086	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
LA	WEST BATON ROUGE PAR	19,419	ND	0.02	0.015	0.11	0.09	34	79	0.006	0.019
ME	ANDROSCOGGIN CO	105,259	ND	ND	ND	ND	ND	IN	45	0.004	0.016
ME	AROSTOOK CO	86,936	ND	ND	ND	ND	ND	31	91	ND	ND
ME	CUMBERLAND CO	243,135	ND	ND	ND	0.11	0.08	23	61	0.005	0.014
ME	FRANKLIN CO	29,008	ND	ND	ND	ND	ND	IN	27	ND	ND
ME	HANCOCK CO	46,948	ND	ND	IN	0.12	0.09	ND	IN	ND	ND
ME	KENNEBEC CO	115,904	ND	ND	ND	0.10	0.08	IN	76	ND	ND
ME	KNOX CO	36,310	ND	ND	ND	0.11	0.08	IN	47	ND	ND
ME	OXFORD CO	52,602	ND	ND	ND	0.08	0.06	IN	45	0.003	0.015

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
ME	PENOBCOT CO	146,601	ND	ND	ND	0.09	0.08	17*	32*	ND	ND
ME	PISCATAQUIS CO	18,653	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
ME	SAGADAHOC CO	33,535	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
ME	YORK CO	164,587	ND	ND	IN	0.12	0.09	ND	ND	ND	ND
MD	ALLEGANY CO	74,946	ND	ND	ND	ND	ND	ND	IN	ND	ND
MD	ANNE ARUNDEL CO	427,239	ND	ND	IN	0.14	0.11	25	53	0.006	0.020
MD	BALTIMORE CO	692,134	ND	ND	0.020	0.14	0.11	15	29	ND	ND
MD	CALVERT CO	51,372	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
MD	CARROLL CO	123,372	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
MD	CECIL CO	71,347	ND	ND	ND	0.15	0.11	14	32	ND	ND
MD	CHARLES CO	101,154	ND	ND	ND	0.13	0.11	ND	ND	ND	ND
MD	FREDERICK CO	150,208	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
MD	GARRETT CO	28,138	ND	ND	ND	ND	ND	ND	IN	ND	ND
MD	HARFORD CO	182,132	ND	ND	IN	0.15	0.11	ND	ND	ND	ND
MD	KENT CO	17,842	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
MD	MONTGOMERY CO	757,027	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
MD	PRINCE GEORGES CO	729,268	4	ND	ND	0.13	0.10	24	58	ND	ND
MD	WASHINGTON CO	121,393	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
MD	WICOMICO CO	74,339	ND	ND	ND	ND	ND	12	31	ND	ND
MD	BALTIMORE	736,014	5	0.00	0.024	0.12	0.09	30*	61*	ND	ND
MA	BARNSTABLE CO	186,605	ND	ND	IN	0.13	0.10	ND	ND	ND	ND
MA	BERKSHIRE CO	139,352	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MA	BRISTOL CO	506,325	ND	ND	IN	0.13	0.10	ND	IN	0.004	0.021
MA	ESSEX CO	670,080	ND	ND	0.013	0.12	0.09	ND	IN	0.005	0.021
MA	HAMPDEN CO	456,310	6	ND	0.022	0.11	0.09	30	66	0.005	0.024
MA	HAMPSHIRE CO	146,568	ND	ND	0.007	0.11	0.09	14	42	0.005	0.017
MA	MIDDLESEX CO	1,398,468	4	ND	ND	0.11	0.09	ND	IN	0.007	0.040
MA	NORFOLK CO	616,087	ND	ND	ND	ND	ND	ND	IN	ND	ND
MA	SUFFOLK CO	663,906	4	0.03	0.030	0.11	0.09	30	65	0.007	0.026
MA	WORCESTER CO	709,705	3	ND	0.020	0.11	0.09	IN	65	0.004	0.013
MI	ALLEGAN CO	90,509	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
MI	BENZIE CO	12,200	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
MI	BERRIEN CO	161,378	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
MI	CALHOUN CO	135,982	ND	ND	ND	ND	ND	IN	50	ND	ND
MI	CASS CO	49,477	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
MI	CLINTON CO	57,883	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
MI	DELTA CO	37,780	ND	ND	ND	ND	ND	ND	ND	0.002	0.010
MI	GENESEE CO	430,459	ND	0.01	ND	0.11	0.10	IN	IN	0.003	0.011
MI	GRAND TRAVERSE CO	64,273	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MI	HURON CO	34,951	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
MI	INGHAM CO	281,912	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
MI	KALAMAZOO CO	223,411	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
MI	KENT CO	500,631	4	0.00	ND	0.11	0.09	21	54	0.001	0.006
MI	LENAWEET CO	91,476	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MI	MACOMB CO	717,400	3	ND	ND	0.12	0.10	ND	ND	0.002	0.012
MI	MASON CO	25,537	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
MI	MISSAUKEE CO	12,147	ND	0.00	ND	0.10	0.09	ND	ND	ND	ND
MI	MUSKEGON CO	158,983	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
MI	OAKLAND CO	1,083,592	3	ND	ND	0.11	0.09	ND	ND	ND	ND
MI	ONTONAGON CO	8,854	ND	ND	ND	ND	ND	IN	IN	ND	ND
MI	OTTAWA CO	187,768	ND	ND	ND	0.11	0.09	IN	IN	ND	ND
MI	ST CLAIR CO	145,607	ND	ND	ND	0.12	0.09	ND	ND	0.008	0.048
MI	WASHTENAW CO	282,937	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
MI	WAYNE CO	2,111,687	4	0.10	0.018	0.11	0.09	36	126	0.009	0.053
MN	ANOKA CO	243,641	2	ND	ND	0.09	0.07	ND	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
MN	BELTRAMI CO	34,384	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	CARLTON CO	29,259	ND	ND	ND	ND	ND	IN	32	ND	ND
MN	CLAY CO	50,422	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	DAKOTA CO	275,227	1	0.47	0.014	0.08	0.07	ND	ND	0.003	0.013
MN	FREEBORN CO	33,060	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	HENNEPIN CO	1,032,431	3	0.01	0.022	ND	ND	30	70	0.004	0.030
MN	KOOCHICHING CO	16,299	ND	ND	ND	ND	ND	ND	ND	0.001	0.003
MN	LAKE CO	10,415	ND	ND	ND	0.08	0.07	IN	IN	ND	ND
MN	MC LEOD CO	32,030	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	MILLE LACS CO	18,670	ND	ND	ND	0.10	0.08	IN	26	ND	ND
MN	OLMSTED CO	106,470	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	OTTER TAIL CO	50,714	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	PINE CO	21,264	1	ND	ND	ND	ND	ND	ND	ND	ND
MN	RAMSEY CO	485,765	5	0.01	0.016	ND	ND	35	88	0.002	0.007
MN	ST LOUIS CO	198,213	2	ND	ND	0.08	0.07	25	71	ND	ND
MN	STEARNS CO	118,791	3	ND	ND	ND	ND	IN	IN	ND	ND
MN	SWIFT CO	10,724	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	WASHINGTON CO	145,896	ND	ND	ND	0.09	0.08	23	49	0.003	0.017
MN	WINONA CO	47,828	ND	ND	ND	ND	ND	IN	IN	ND	ND
MN	WRIGHT CO	68,710	ND	ND	ND	ND	ND	IN	IN	ND	ND
MS	ADAMS CO	35,356	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MS	BOLIVAR CO	41,875	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
MS	COAHOMA CO	31,665	ND	ND	ND	ND	ND	IN	IN	ND	ND
MS	DE SOTO CO	67,910	ND	ND	0.012	0.13	0.09	ND	ND	ND	ND
MS	HANCOCK CO	31,760	ND	ND	0.006	0.11	0.09	ND	ND	ND	ND
MS	HARRISON CO	165,365	ND	ND	ND	0.11	0.10	ND	ND	0.003	0.024
MS	HINDS CO	254,441	5	ND	ND	0.11	0.08	25	53	0.002	0.007
MS	JACKSON CO	115,243	ND	ND	ND	0.11	0.09	IN	38	0.003	0.016
MS	JONES CO	62,031	ND	ND	ND	ND	ND	IN	IN	ND	ND
MS	LAUDERDALE CO	75,555	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MS	LEE CO	65,581	ND	ND	ND	0.11	0.09	16	34	ND	ND
MS	MADISON CO	53,794	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
MS	PANOLA CO	29,996	ND	ND	IN	ND	ND	IN	IN	IN	0.004
MS	WARREN CO	47,880	ND	ND	ND	0.09	0.07	ND	IN	ND	ND
MS	WASHINGTON CO	67,935	ND	ND	ND	ND	ND	IN	IN	ND	ND
MO	AUDRAIN CO	23,599	ND	ND	ND	ND	ND	ND	IN	ND	ND
MO	BUCHANAN CO	83,083	ND	ND	ND	ND	ND	IN	99	0.003	0.013
MO	CEDAR CO	12,093	ND	ND	IN	0.09	0.08	ND	ND	ND	ND
MO	CLAY CO	153,411	5	ND	0.015	0.11	0.08	ND	ND	0.002	0.011
MO	GREENE CO	207,949	3	ND	0.013	0.10	0.08	18*	34*	0.004	0.039
MO	HOLT CO	6,034	ND	0.28	ND	ND	ND	ND	ND	ND	ND
MO	IRON CO	10,726	ND	1.24	ND	ND	ND	ND	ND	0.009	0.083
MO	JACKSON CO	633,232	4	0.01	ND	0.12	0.08	28	56	0.003	0.009
MO	JASPER CO	90,465	ND	ND	ND	ND	ND	34	105	ND	ND
MO	JEFFERSON CO	171,380	ND	6.75	ND	0.12	0.10	ND	IN	0.008	0.045
MO	LINCOLN CO	28,892	ND	ND	ND	ND	ND	IN	61	ND	ND
MO	MONROE CO	9,104	ND	ND	ND	0.11	0.09	13*	34*	0.004	0.011
MO	PLATTE CO	57,867	ND	ND	0.011	0.09	0.08	ND	ND	0.002	0.008
MO	ST CHARLES CO	212,907	ND	ND	0.012	0.13	0.10	ND	ND	0.005	0.016
MO	STE GENEVIEVE CO	16,037	ND	ND	IN	0.11	0.10	ND	ND	ND	ND
MO	ST LOUIS CO	993,529	3	0.02	0.024	0.12	0.10	18	33	0.007	0.021
MO	ST LOUIS	396,685	4	ND	0.027	0.12	0.09	36	92	0.009	0.037
MT	BIG HORN CO	11,337	ND	ND	ND	ND	ND	29*	77*	ND	ND
MT	BROADWATER CO	3,318	ND	ND	ND	ND	ND	ND	IN	ND	ND
MT	CASCADE CO	77,691	4	ND	ND	ND	ND	ND	ND	0.003	0.011

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
MT	FLATHEAD CO	59,218	5	ND	ND	0.06	IN	29*	96*	ND	ND
MT	GALLATIN CO	50,463	5	ND	ND	ND	ND	IN	62	ND	ND
MT	GLACIER CO	12,121	ND	ND	ND	ND	ND	26	69	ND	ND
MT	JEFFERSON CO	7,939	ND	ND	ND	ND	ND	IN	IN	0.004	0.029
MT	LAKE CO	21,041	ND	ND	ND	ND	ND	21	118	ND	ND
MT	LEWIS AND CLARK CO	47,495	ND	1.12	ND	ND	ND	25	125	0.006	0.036
MT	LINCOLN CO	17,481	ND	ND	ND	ND	ND	26	74	ND	ND
MT	MADISON CO	5,989	ND	ND	ND	ND	ND	6*	19*	ND	ND
MT	MISSOULA CO	78,687	4	ND	ND	ND	ND	20*	56*	ND	ND
MT	PARK CO	14,562	ND	ND	ND	ND	ND	IN	IN*	ND	ND
MT	PHILLIPS CO	5,163	ND	ND	ND	ND	ND	ND	IN	ND	ND
MT	RAVALLI CO	25,010	ND	ND	ND	ND	ND	21*	67*	ND	ND
MT	ROOSEVELT CO	10,999	ND	ND	ND	ND	ND	IN	IN	ND	ND
MT	ROSEBUD CO	10,505	ND	ND	ND	ND	ND	32	107	ND	ND
MT	SANDERS CO	8,669	ND	ND	ND	ND	ND	IN	53	ND	ND
MT	SILVER BOW CO	33,941	4	ND	ND	ND	ND	21	62	ND	ND
MT	STILLWATER CO	6,536	ND	ND	ND	ND	ND	IN	IN	ND	ND
MT	YELLOWSTONE CO	113,419	6	ND	ND	ND	ND	21	69	0.007	0.037
NE	CASS CO	21,318	ND	ND	ND	ND	ND	38	131	ND	ND
NE	DAWSON CO	19,940	ND	ND	ND	ND	ND	34	116	ND	ND
NE	DOUGLAS CO	416,444	9	0.81	ND	0.09	0.08	43	102	0.001	0.006
NE	LANCASTER CO	213,641	6	ND	ND	0.06	0.05	ND	ND	ND	ND
NV	CHURCHILL CO	17,938	ND	ND	ND	ND	ND	ND	IN	ND	ND
NV	CLARK CO	741,459	8	ND	ND	0.10	0.08	56	281	ND	ND
NV	DOUGLAS CO	27,637	2	ND	ND	0.09	0.07	IN	IN	ND	ND
NV	ELKO CO	33,530	ND	ND	ND	ND	ND	29	93	ND	ND
NV	LANDER CO	6,266	ND	ND	ND	ND	ND	24	120	ND	ND
NV	PERSHING CO	4,336	ND	ND	ND	ND	ND	ND	IN	ND	ND
NV	WASHOE CO	254,667	7	ND	IN	0.10	0.08	57*	120*	ND	ND
NV	WHITE PINE CO	9,264	ND	ND	ND	0.08	0.07	ND	IN	ND	ND
NV	CARSON CITY	40,443	4	ND	ND	0.08	0.07	ND	IN	ND	ND
NH	BELKNAP CO	49,216	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
NH	CARROLL CO	35,410	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
NH	CHESHIRE CO	70,121	ND	ND	ND	0.11	0.08	22	49	0.005	0.022
NH	COOS CO	34,828	ND	ND	ND	0.10	IN	29	63	0.004	0.034
NH	GRAFTON CO	74,929	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
NH	HILLSBOROUGH CO	336,073	5	ND	IN	0.10	0.09	17	41	0.005	0.025
NH	MERRIMACK CO	120,005	ND	ND	ND	0.09	0.07	17	39	0.004	0.028
NH	ROCKINGHAM CO	245,845	ND	ND	0.010	0.12	0.09	16	34	0.004	0.019
NH	STRAFFORD CO	104,233	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
NH	SULLIVAN CO	38,592	ND	ND	ND	0.10	0.08	16	46	0.003	0.015
NJ	ATLANTIC CO	224,327	ND	ND	ND	0.12	0.10	22	46	0.003	0.009
NJ	BERGEN CO	825,380	4	ND	ND	ND	ND	34	75	0.005	0.020
NJ	BURLINGTON CO	395,066	4	ND	ND	ND	ND	ND	ND	0.004	0.018
NJ	CAMDEN CO	502,824	4	0.08	0.022	0.13	0.11	22	51	0.006	0.023
NJ	CUMBERLAND CO	138,053	ND	ND	ND	0.12	0.10	ND	ND	0.003	0.012
NJ	ESSEX CO	778,206	4	ND	0.033	0.12	0.10	IN	66	0.007	0.022
NJ	Gloucester CO	230,082	ND	ND	ND	0.13	0.10	ND	IN	0.005	0.020
NJ	HUDSON CO	553,099	6	ND	0.026	0.14	0.11	35	56	0.008	0.030
NJ	HUNTERDON CO	107,776	ND	ND	ND	0.13	0.11	ND	ND	ND	ND
NJ	MERCER CO	325,824	ND	ND	0.017	0.15	0.11	21	48	ND	ND
NJ	MIDDLESEX CO	671,780	3	0.18	0.019	0.15	0.11	ND	ND	0.005	0.016
NJ	MONMOUTH CO	553,124	3	ND	ND	0.12	0.10	ND	ND	ND	ND
NJ	MORRIS CO	421,353	4	ND	0.011	0.12	0.10	ND	ND	0.004	0.020
NJ	OCEAN CO	433,203	ND	ND	ND	0.14	0.11	ND	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
NJ	PASSAIC CO	453,060	ND	ND	ND	0.13	0.10	ND	IN	ND	ND
NJ	UNION CO	493,819	7	ND	0.042	ND	ND	33	67	0.007	0.023
NJ	WARREN CO	91,607	ND	ND	ND	ND	ND	ND	IN	ND	ND
NM	BERNALILLO CO	480,577	5	ND	0.016	0.10	0.08	35*	123*	ND	ND
NM	CHAVES CO	57,849	ND	ND	ND	ND	ND	19	33	ND	ND
NM	DONA ANA CO	135,510	4	ND	0.012	0.10	0.08	47*	200*	0.001	0.008
NM	EDDY CO	48,605	ND	ND	0.006	0.08	0.07	ND	ND	0.001	0.007
NM	GRANT CO	27,676	ND	ND	ND	ND	ND	23*	51*	0.003	0.030
NM	HIDALGO CO	5,958	ND	ND	ND	ND	ND	IN	53	0.003	0.025
NM	LEA CO	55,765	ND	ND	ND	ND	ND	18*	31*	ND	ND
NM	LUNA CO	18,110	ND	ND	ND	ND	ND	25*	112*	ND	ND
NM	OTERO CO	51,928	ND	ND	ND	ND	ND	IN	45	ND	ND
NM	SANDOVAL CO	63,319	1	ND	0.010	0.09	0.08	20*	46*	ND	ND
NM	SAN JUAN CO	91,605	2	ND	0.012	0.08	0.07	18*	37*	0.010	0.038
NM	SANTA FE CO	98,928	2	ND	ND	ND	ND	14*	31*	ND	ND
NM	TAOS CO	23,118	ND	ND	ND	ND	ND	IN	38	ND	ND
NM	VALENCIA CO	45,235	ND	ND	ND	0.09	0.07	ND	ND	ND	ND
NY	ALBANY CO	292,594	1	ND	IN	0.11	0.08	ND	ND	0.003	0.016
NY	BRONX CO	1,203,789	4	ND	0.033	0.14	0.10	IN	IN	0.011	0.041
NY	CHAUTAUQUA CO	141,895	ND	ND	ND	0.10	0.09	14	40	0.008	0.060
NY	CHEMUNG CO	95,195	ND	ND	ND	0.09	0.08	ND	ND	0.003	0.015
NY	DUTCHESS CO	259,462	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
NY	ERIE CO	968,532	2	ND	0.022	0.10	0.09	ND	ND	0.010	0.052
NY	ESSEX CO	37,152	ND	ND	ND	0.10	0.08	10	40	0.002	0.007
NY	HAMILTON CO	5,279	ND	ND	ND	0.09	0.08	ND	ND	0.002	0.006
NY	HERKIMER CO	65,797	ND	ND	ND	0.09	0.07	IN	46	0.001	0.007
NY	JEFFERSON CO	110,943	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
NY	KINGS CO	2,300,664	5	0.10	ND	ND	ND	IN	46	0.009	0.030
NY	MADISON CO	69,120	ND	ND	ND	0.09	0.08	ND	ND	0.002	0.015
NY	MONROE CO	713,968	3	ND	ND	0.10	0.09	ND	ND	0.007	0.041
NY	NASSAU CO	1,287,348	5	ND	0.024	ND	ND	16	41	0.006	0.038
NY	NEW YORK CO	1,487,536	5	ND	0.041	0.12	0.08	IN	45	0.013	0.045
NY	NIAGARA CO	220,756	3	0.02	ND	0.10	0.09	IN	48	0.005	0.020
NY	ONEIDA CO	250,836	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
NY	ONONDAGA CO	468,973	3	ND	ND	0.10	0.09	ND	ND	0.002	0.012
NY	ORANGE CO	307,647	ND	0.20	ND	0.12	0.09	ND	ND	ND	ND
NY	PUTNAM CO	83,941	ND	ND	ND	0.13	0.10	ND	ND	0.003	0.010
NY	QUEENS CO	1,951,598	3	ND	0.029	0.13	0.09	ND	ND	0.007	0.028
NY	RENSSELAER CO	154,429	ND	ND	ND	ND	ND	ND	ND	0.002	0.011
NY	RICHMOND CO	378,977	ND	0.02	ND	0.15	0.11	IN	43	0.006	0.022
NY	SARATOGA CO	181,276	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NY	SCHEECTADY CO	149,285	4	ND	ND	0.11	0.08	ND	ND	0.003	0.013
NY	SUFFOLK CO	1,321,864	ND	ND	ND	0.13	0.11	ND	ND	0.007	0.025
NY	ULSTER CO	165,304	ND	ND	ND	0.10	0.08	IN	41	0.002	0.010
NY	WAYNE CO	89,123	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
NY	WESTCHESTER CO	874,866	ND	ND	ND	0.14	0.11	ND	ND	ND	ND
NC	ALEXANDER CO	27,544	ND	ND	ND	0.11	0.08	ND	ND	0.005	0.007
NC	AVERY CO	14,867	ND	ND	ND	0.09	IN	ND	ND	ND	ND
NC	BEAUFORT CO	42,283	ND	ND	ND	ND	ND	ND	ND	0.006	0.015
NC	BUNCOMBE CO	174,821	ND	ND	ND	0.10	0.08	22*	44*	ND	ND
NC	CABARRUS CO	98,935	ND	ND	ND	ND	ND	IN	45	ND	ND
NC	CALDWELL CO	70,709	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
NC	CAMDEN CO	5,904	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	CASWELL CO	20,693	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	CATAWBA CO	118,412	ND	ND	ND	ND	ND	26*	51*	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
NC	CHATHAM CO	38,759	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	CUMBERLAND CO	274,566	5	ND	ND	0.12	0.10	25*	43*	0.005	0.007
NC	DAVIDSON CO	126,677	ND	ND	ND	ND	ND	25*	46*	ND	ND
NC	DAVIE CO	27,859	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
NC	DUPLIN CO	39,995	ND	ND	ND	0.10	0.09	ND	ND	0.005	0.007
NC	DURHAM CO	181,835	5	ND	ND	0.11	0.09	23*	47*	ND	ND
NC	EDGECOMBE CO	56,558	ND	ND	ND	0.10	0.09	IN	IN	0.005	0.007
NC	FORSYTH CO	265,878	4	ND	0.016	0.12	0.10	23	58	0.005	0.020
NC	FRANKLIN CO	36,414	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	GASTON CO	175,093	ND	ND	ND	ND	ND	23	43	ND	ND
NC	GRANVILLE CO	38,345	1	ND	ND	0.09	0.08	ND	ND	ND	ND
NC	GUILFORD CO	347,420	3	ND	ND	0.11	0.10	25*	48*	ND	ND
NC	HARNETT CO	67,822	ND	ND	ND	ND	ND	26*	47*	ND	ND
NC	HAYWOOD CO	46,942	ND	ND	ND	0.11	0.10	25*	42*	ND	ND
NC	HENDERSON CO	69,285	ND	ND	ND	ND	ND	24*	44*	ND	ND
NC	JACKSON CO	26,846	ND	ND	ND	0.09	0.09	ND	ND	ND	ND
NC	JOHNSTON CO	81,306	ND	ND	ND	0.13	0.10	ND	ND	0.005	0.009
NC	LENOIR CO	57,274	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	LINCOLN CO	50,319	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	MC DOWELL CO	35,681	ND	ND	ND	ND	ND	24	40	ND	ND
NC	MARTIN CO	25,078	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
NC	MECKLENBURG CO	511,433	4	ND	0.018	0.13	0.10	31*	61*	0.004	0.013
NC	MICHELL CO	14,433	ND	ND	ND	ND	ND	29*	49*	ND	ND
NC	NEW HANOVER CO	120,284	4	ND	ND	0.08	0.07	IN	45	0.007	0.027
NC	NORTHAMPTON CO	20,798	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
NC	ONSLOW CO	149,838	ND	ND	ND	ND	ND	IN	45	ND	ND
NC	ORANGE CO	93,851	4	ND	ND	ND	ND	ND	ND	ND	ND
NC	PASQUOTANK CO	31,298	ND	ND	ND	ND	ND	IN	43	ND	ND
NC	PERSON CO	30,180	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
NC	PITT CO	107,924	ND	ND	ND	0.11	0.09	IN	43	ND	ND
NC	ROCKINGHAM CO	86,064	ND	ND	ND	0.11	0.08	ND	ND	ND	ND
NC	ROWAN CO	110,605	1	ND	ND	0.13	0.11	ND	ND	ND	ND
NC	SWAIN CO	11,268	ND	ND	ND	0.09	0.08	21	41	ND	ND
NC	UNION CO	84,211	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
NC	WAKE CO	423,380	5	ND	ND	0.13	0.11	21*	49*	ND	ND
NC	WAYNE CO	104,666	ND	ND	ND	ND	ND	20	48	ND	ND
NC	YANCEY CO	15,419	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
ND	BILLINGS CO	1,108	ND	ND	ND	0.06	0.06	ND	ND	0.001	0.004
ND	BURKE CO	3,002	ND	ND	0.003	ND	ND	17	45	0.002	0.010
ND	BURLEIGH CO	60,131	ND	ND	ND	ND	ND	ND	IN	ND	ND
ND	CASS CO	102,874	ND	ND	0.007	0.07	0.07	21	65	0.001	0.003
ND	DUNN CO	4,005	ND	ND	0.003	0.06	0.06	ND	ND	0.001	0.005
ND	GRAND FORKS CO	70,683	ND	ND	ND	ND	ND	ND	IN	ND	ND
ND	MC KENZIE CO	6,383	ND	ND	ND	ND	ND	6	17	0.001	0.010
ND	MC LEAN CO	10,457	ND	ND	ND	ND	ND	7	17	0.002	0.009
ND	MERCER CO	9,808	ND	ND	0.004	0.07	0.06	ND	IN	0.003	0.016
ND	MORTON CO	23,700	ND	ND	ND	ND	ND	ND	ND	0.006	0.071
ND	OLIVER CO	2,381	ND	ND	0.003	0.08	0.06	ND	ND	0.002	0.014
ND	STARK CO	22,832	ND	ND	ND	ND	ND	ND	IN	ND	ND
ND	STEELE CO	2,420	ND	ND	0.003	0.07	0.06	ND	IN	0.001	0.004
ND	WILLIAMS CO	21,129	ND	ND	ND	ND	ND	ND	IN	0.003	0.064
OH	ADAMS CO	25,371	ND	ND	ND	ND	ND	ND	ND	0.008	0.056
OH	ALLEN CO	109,755	ND	ND	ND	0.11	0.09	17	32	0.003	0.013
OH	ASHTABULA CO	99,821	ND	ND	ND	0.10	0.09	ND	ND	0.005	0.019
OH	ATHENS CO	59,549	ND	ND	ND	ND	ND	20	38	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
OH	BELMONT CO	71,074	ND	ND	ND	ND	ND	26	69	IN	0.030
OH	BUTLER CO	291,479	ND	0.01	ND	0.12	0.10	31	85	0.007	0.024
OH	CLARK CO	147,548	ND	ND	ND	0.11	0.09	ND	ND	0.004	0.017
OH	CLERMONT CO	150,187	ND	ND	ND	0.12	0.09	ND	ND	0.005	0.020
OH	CLINTON CO	35,415	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
OH	COLUMBIANA CO	108,276	ND	ND	ND	ND	ND	IN	135	IN	0.039
OH	CUYAHOGA CO	1,412,140	4	0.15	0.025	0.10	0.09	42	106	0.009	0.036
OH	DELAWARE CO	66,929	ND	ND	ND	0.14	0.10	ND	ND	ND	ND
OH	ERIE CO	76,779	ND	ND	ND	ND	ND	IN	IN	ND	ND
OH	FRANKLIN CO	961,437	3	0.05	ND	0.11	0.10	27	86	0.004	0.015
OH	FULTON CO	38,498	ND	0.26	ND	ND	ND	ND	ND	ND	ND
OH	GEAUGA CO	81,129	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
OH	GREENE CO	136,731	ND	ND	ND	0.10	0.09	18	39	ND	ND
OH	HAMILTON CO	866,228	3	0.01	0.022	0.12	0.09	31	60	0.006	0.028
OH	HANCOCK CO	65,536	ND	ND	ND	ND	ND	IN	31	ND	ND
OH	JEFFERSON CO	80,298	3	ND	ND	0.11	0.09	34	75	0.011	0.059
OH	KNOX CO	47,473	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	LAKE CO	215,499	1	ND	ND	0.12	0.10	20	50	0.011	0.062
OH	LAWRENCE CO	61,834	ND	ND	ND	0.12	0.10	27	52	0.005	0.025
OH	LINGING CO	128,300	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	LOGAN CO	42,310	ND	0.23	ND	0.10	0.08	ND	ND	ND	ND
OH	LORAIN CO	271,126	ND	ND	ND	0.12	0.09	29	76	0.006	0.027
OH	LUCAS CO	462,361	3	ND	ND	0.13	0.09	23	58	0.004	0.052
OH	MADISON CO	37,068	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	MAHONING CO	264,806	ND	ND	ND	0.11	0.09	26	63	0.008	0.029
OH	MEDINA CO	122,354	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	MEIGS CO	22,987	ND	ND	ND	ND	ND	ND	ND	0.006	0.034
OH	MIAMI CO	93,182	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	MONROE CO	15,497	ND	ND	ND	ND	ND	25	52	ND	ND
OH	MONTGOMERY CO	573,809	3	0.01	ND	0.13	0.10	24	53	0.005	0.018
OH	MORGAN CO	14,194	ND	ND	ND	ND	ND	ND	ND	0.006	0.038
OH	OTTAWA CO	40,029	ND	ND	ND	ND	ND	25	62	ND	ND
OH	PORTAGE CO	142,585	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
OH	PREBLE CO	40,113	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
OH	RICHLAND CO	126,137	ND	ND	ND	ND	ND	23	53	ND	ND
OH	SANDUSKY CO	61,963	ND	ND	ND	ND	ND	26	69	ND	ND
OH	SCIOTO CO	80,327	ND	ND	ND	ND	ND	32	64	0.007	0.032
OH	SENECA CO	59,733	ND	ND	ND	ND	ND	IN	69	ND	ND
OH	STARK CO	367,585	2	ND	ND	0.11	0.09	24	57	0.007	0.028
OH	SUMMIT CO	514,990	3	0.01	ND	0.11	0.10	23	69	0.011	0.065
OH	TRUMBULL CO	227,813	ND	ND	ND	0.11	0.10	22	59	ND	ND
OH	TUSCARAWAS CO	84,090	ND	ND	ND	ND	ND	ND	ND	0.006	0.028
OH	UNION CO	31,969	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
OH	WARREN CO	113,909	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
OH	WASHINGTON CO	62,254	ND	ND	ND	0.12	0.10	28	72	ND	ND
OH	WOOD CO	113,269	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
OH	WYANDOT CO	22,254	ND	ND	ND	ND	ND	22	63	ND	ND
OK	CLEVELAND CO	174,253	2	ND	0.012	0.09	0.08	ND	IN	ND	ND
OK	COMANCHE CO	111,486	2	ND	ND	0.09	0.08	ND	IN	ND	ND
OK	CUSTER CO	26,897	ND	ND	ND	ND	ND	ND	IN	ND	ND
OK	GARFIELD CO	56,735	ND	ND	0.008	ND	ND	ND	IN	ND	ND
OK	JEFFERSON CO	7,010	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
OK	KAY CO	48,056	ND	ND	ND	ND	ND	IN	IN*	0.004	0.019
OK	LATIMER CO	10,333	ND	ND	ND	0.10	0.07	ND	ND	ND	ND
OK	LOVE CO	8,157	ND	ND	ND	0.11	0.09	ND	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
OK	MC CLAIN CO	22,795	ND	ND	0.10	0.08	ND	ND	ND	ND	ND
OK	MARSHALL CO	10,829	ND	ND	0.11	0.09	ND	ND	ND	ND	ND
OK	MAYES CO	33,366	ND	ND	0.007	ND	ND	ND	IN	ND	ND
OK	MUSKOGEE CO	68,078	ND	ND	0.008	ND	ND	32*	88*	0.003	0.017
OK	OKLAHOMA CO	599,611	4	ND	0.014	0.10	0.08	IN	IN*	0.004	0.009
OK	PITTSBURG CO	40,581	ND	ND	ND	ND	ND	ND	IN	ND	ND
OK	TULSA CO	503,341	4	ND	0.017	0.12	0.09	22*	44*	0.011	0.083
OR	CLACKAMAS CO	278,850	ND	ND	ND	0.09	0.07	IN	IN	ND	ND
OR	COLUMBIA CO	37,557	ND	ND	ND	0.07	0.05	ND	ND	ND	ND
OR	DESCHUTES CO	74,958	5	ND	ND	ND	ND	IN	75	ND	ND
OR	JACKSON CO	146,389	6	0.00	ND	0.08	IN	IN	93	ND	ND
OR	JOSEPHINE CO	62,649	5	ND	ND	ND	ND	IN	39	ND	ND
OR	KLAMATH CO	57,702	5	ND	ND	ND	ND	IN	82	ND	ND
OR	LAKE CO	7,186	ND	ND	ND	ND	ND	IN	94	ND	ND
OR	LANE CO	282,912	5	0.02	ND	0.08	0.07	IN	IN*	ND	ND
OR	MARION CO	228,483	6	ND	ND	0.08	0.07	ND	ND	ND	ND
OR	MULTNOMAH CO	583,887	6	0.00	IN	ND	ND	IN	63	ND	ND
OR	UMATILLA CO	59,249	ND	ND	ND	ND	ND	IN	53	ND	ND
OR	UNION CO	23,598	ND	ND	ND	ND	ND	IN	89	ND	ND
OR	YAMHILL CO	65,551	ND	0.18	ND	ND	ND	ND	ND	ND	ND
PA	ADAMS CO	78,274	1	ND	0.005	ND	ND	ND	ND	ND	ND
PA	ALLEGHENY CO	1,336,449	4	0.06	0.029	0.13	0.10	37	121	0.012	0.089
PA	ARMSTRONG CO	73,478	ND	ND	0.12	0.10	ND	ND	ND	ND	ND
PA	BEAVER CO	186,093	2	0.08	0.019	0.13	0.10	IN	IN	0.015	0.070
PA	BERKS CO	336,523	3	0.84	0.021	0.13	0.10	IN	IN*	0.008	0.027
PA	BLAIR CO	130,542	2	ND	0.013	0.11	0.09	IN	IN*	0.007	0.030
PA	BUCKS CO	541,174	4	ND	0.018	0.15	0.11	IN	IN*	0.005	0.020
PA	CAMBRIA CO	163,029	3	0.09	0.015	0.11	0.09	IN	IN	0.009	0.025
PA	CARBON CO	56,846	ND	0.07	ND	ND	ND	ND	ND	ND	ND
PA	CENTRE CO	123,786	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
PA	CHESTER CO	376,396	ND	ND	ND	ND	ND	ND	IN	ND	ND
PA	CLEARFIELD CO	78,097	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
PA	DAUPHIN CO	237,813	4	ND	0.018	0.13	0.10	IN	IN*	0.005	0.021
PA	DELAWARE CO	547,651	ND	0.05	0.017	0.13	0.10	IN	IN*	0.010	0.034
PA	ERIE CO	275,572	6	ND	0.015	0.11	0.10	IN	IN*	0.010	0.043
PA	FRANKLIN CO	121,082	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
PA	GREENE CO	39,550	2	ND	0.003	0.12	0.10	ND	ND	0.009	0.022
PA	LACKAWANNA CO	219,039	2	ND	0.014	0.12	0.10	IN	IN	0.005	0.021
PA	LANCASTER CO	422,822	2	ND	0.015	0.13	0.10	IN	IN	0.005	0.021
PA	LAWRENCE CO	96,246	3	ND	0.020	0.11	0.09	IN	IN*	0.008	0.035
PA	LEHIGH CO	291,130	3	ND	0.015	0.13	0.11	IN	IN*	0.007	0.030
PA	LUZERNE CO	328,149	3	ND	0.015	0.11	0.09	IN	IN	0.007	0.023
PA	LYCOMING CO	118,710	ND	ND	ND	0.09	0.08	IN	IN	0.005	0.021
PA	MERCER CO	121,003	ND	ND	ND	0.11	0.09	ND	IN	0.007	0.039
PA	MONROE CO	95,709	0	ND	ND	0.12	0.10	ND	ND	0.003	0.006
PA	MONTGOMERY CO	678,111	2	ND	0.016	0.13	0.10	IN	IN*	0.006	0.020
PA	NORTHAMPTON CO	247,105	3	ND	0.017	0.13	0.11	IN	IN	0.009	0.037
PA	PERRY CO	41,172	ND	ND	0.006	0.11	0.09	ND	IN	0.003	0.012
PA	PHILADELPHIA CO	1,585,577	5	0.84	0.032	0.12	0.10	IN	IN	0.006	0.028
PA	SCHUYLKILL CO	152,585	2	ND	ND	ND	ND	ND	ND	0.007	0.038
PA	TIOGA CO	41,126	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
PA	WARREN CO	45,050	ND	ND	ND	ND	ND	ND	ND	0.015	0.097
PA	WASHINGTON CO	204,584	2	ND	0.016	0.12	0.10	IN	IN	0.010	0.036
PA	WESTMORELAND CO	370,321	2	0.04	0.018	0.13	0.10	IN	IN	0.011	0.037
PA	YORK CO	339,574	2	ND	0.019	0.12	0.09	IN	IN	0.007	0.019

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
RI	KENT CO	161,135	ND	ND	IN	0.12	0.09	14	37	ND	ND
RI	PROVIDENCE CO	596,270	4	ND	0.024	0.11	0.08	29	61	0.007	0.026
RI	WASHINGTON CO	110,006	ND	ND	ND	0.13	0.09	ND	ND	ND	ND
SC	ABBEVILLE CO	23,862	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
SC	AIKEN CO	120,940	ND	0.00	0.005	0.11	0.08	IN	44	IN	0.007
SC	ANDERSON CO	145,196	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
SC	BARNWELL CO	20,293	ND	ND	IN	0.10	0.09	19*	43*	0.002	0.004
SC	BEAUFORT CO	86,425	ND	0.00	ND	ND	ND	ND	ND	ND	ND
SC	BERKELEY CO	128,776	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
SC	CHARLESTON CO	295,039	4	0.01	0.010	0.10	0.08	21	47	0.002	0.011
SC	CHEROKEE CO	44,506	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
SC	CHESTER CO	32,170	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
SC	COLLETION CO	34,377	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
SC	DARLINGTON CO	61,851	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
SC	DILLON CO	29,114	ND	0.01	ND	ND	ND	ND	ND	ND	ND
SC	EDGEFIELD CO	18,375	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
SC	FAIRFIELD CO	22,295	ND	ND	ND	ND	ND	24*	45*	ND	ND
SC	FLORENCE CO	114,344	ND	0.01	ND	ND	ND	ND	ND	ND	ND
SC	GEORGETOWN CO	46,302	ND	0.02	ND	ND	ND	32	77	IN	0.015
SC	GREENVILLE CO	320,167	5	0.01	0.017	ND	ND	IN	52	0.003	0.009
SC	GREENWOOD CO	59,567	ND	0.02	ND	ND	ND	ND	ND	ND	ND
SC	HAMPTON CO	18,191	ND	0.01	ND	ND	ND	ND	ND	ND	ND
SC	HORRY CO	144,053	ND	0.01	ND	ND	ND	ND	ND	ND	ND
SC	KERSHAW CO	43,599	ND	0.01	ND	ND	ND	ND	ND	ND	ND
SC	LEXINGTON CO	167,611	ND	0.04	ND	ND	ND	IN	148	0.004	0.017
SC	OCONEE CO	57,494	ND	ND	ND	0.10	0.09	ND	ND	0.002	0.006
SC	PICKENS CO	93,894	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
SC	RICHLAND CO	285,720	4	0.01	0.014	0.12	0.09	24*	122*	0.003	0.010
SC	SPARTANBURG CO	226,800	ND	0.01	ND	0.12	0.10	26	46	ND	ND
SC	UNION CO	30,337	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
SC	WILLIAMSBURG CO	36,815	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
SC	YORK CO	131,497	ND	0.02	ND	0.11	0.09	26	49	ND	ND
SD	BROOKINGS CO	25,207	ND	ND	ND	ND	ND	24	71	ND	ND
SD	MINNEHAHA CO	123,809	ND	ND	ND	0.07	IN	22*	44*	ND	ND
SD	PENNINGTON CO	81,343	ND	ND	ND	ND	ND	31*	108*	ND	ND
TN	ANDERSON CO	68,250	ND	ND	ND	0.12	0.09	ND	ND	0.004	0.028
TN	BLOUNT CO	85,969	1	ND	0.003	0.12	0.11	ND	IN	0.009	0.056
TN	BRADLEY CO	73,712	ND	ND	0.015	ND	ND	28*	52*	0.008	0.034
TN	COFFEE CO	40,339	ND	ND	IN	ND	ND	ND	ND	IN	0.005
TN	DAVIDSON CO	510,784	5	ND	0.019	0.12	0.10	32	75	0.005	0.022
TN	DICKSON CO	35,061	ND	ND	IN	0.11	0.10	ND	IN	0.003	0.011
TN	GREENE CO	55,853	ND	ND	ND	ND	ND	IN	50	ND	ND
TN	HAMBLEN CO	50,480	ND	ND	ND	ND	ND	ND	IN	ND	ND
TN	HAMILTON CO	285,536	ND	ND	ND	0.12	0.10	29	49	ND	ND
TN	HAWKINS CO	44,565	ND	ND	ND	ND	ND	ND	ND	0.008	0.044
TN	HAYWOOD CO	19,437	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
TN	HUMPHREYS CO	15,795	ND	ND	ND	ND	ND	ND	ND	0.004	0.026
TN	JEFFERSON CO	33,016	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
TN	KNOX CO	335,749	4	0.00	ND	0.13	0.10	30	61	ND	ND
TN	LAWRENCE CO	35,303	ND	ND	ND	0.12	0.10	ND	IN	ND	ND
TN	MC MINN CO	42,383	ND	ND	0.016	ND	ND	39*	69*	0.008	0.027
TN	MADISON CO	77,982	ND	ND	ND	ND	ND	IN	43	ND	ND
TN	MAURY CO	54,812	ND	ND	ND	ND	ND	ND	IN	ND	ND
TN	MONTGOMERY CO	100,498	ND	ND	ND	ND	ND	23	39	0.005	0.016
TN	POLK CO	13,643	ND	ND	ND	ND	ND	ND	ND	0.007	0.021

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
TN	PUTNAM CO	51,373	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
TN	ROANE CO	47,227	ND	ND	IN	0.12	0.09	26	44	0.003	0.019
TN	RUTHERFORD CO	118,570	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
TN	SEVIER CO	51,043	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
TN	SHELBY CO	826,330	5	0.65	0.025	0.13	0.10	27	64	0.006	0.028
TN	STEWART CO	9,479	ND	ND	ND	ND	ND	ND	ND	0.003	0.011
TN	SULLIVAN CO	143,596	3	0.12	0.016	0.11	0.09	ND	IN	0.010	0.039
TN	SUMNER CO	103,281	IN	ND	IN	0.12	0.10	ND	IN	0.004	0.035
TN	UNION CO	13,694	ND	ND	ND	ND	ND	43	148	ND	ND
TN	WASHINGTON CO	92,315	ND	ND	ND	ND	ND	ND	IN	ND	ND
TN	WILLIAMSON CO	81,021	ND	1.02	ND	0.11	0.10	ND	ND	ND	ND
TN	WILSON CO	67,675	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
TX	BEXAR CO	1,185,394	4	ND	0.025	0.11	0.09	IN	IN*	ND	ND
TX	BOWIE CO	81,665	ND	ND	ND	ND	ND	ND	ND	IN	0.007
TX	BRAZORIA CO	191,707	ND	ND	ND	0.16	0.11	ND	ND	ND	ND
TX	BREWSTER CO	8,681	ND	ND	0.000	0.08	0.06	ND	ND	0.001	0.001
TX	CAMERON CO	260,120	3	0.01	ND	0.08	0.07	22*	59*	0.002	0.004
TX	CASS CO	29,982	ND	ND	ND	ND	ND	ND	ND	IN	0.008
TX	COLLIN CO	264,036	ND	0.82	ND	0.14	0.10	IN	IN*	ND	ND
TX	DALLAS CO	1,852,810	3	0.00	0.021	0.13	0.10	32*	61*	0.002	0.007
TX	DENTON CO	273,525	ND	ND	0.008	0.14	0.11	ND	ND	ND	ND
TX	ELLIS CO	85,167	ND	ND	ND	0.12	0.10	25*	52*	0.004	0.033
TX	EL PASO CO	591,610	8	0.15	0.028	0.11	0.07	63	303	0.003	0.016
TX	GALVESTON CO	217,399	ND	ND	0.005	0.18	0.12	23*	43*	0.007	0.040
TX	GREGG CO	104,948	ND	ND	0.007	0.13	0.11	ND	ND	0.002	0.011
TX	HARRIS CO	2,818,199	4	0.02	0.024	0.20	0.12	45*	116*	0.005	0.019
TX	HIDALGO CO	383,545	ND	ND	0.09	0.08	ND	IN	ND	ND	ND
TX	JEFFERSON CO	239,397	ND	ND	0.011	0.10	0.08	ND	ND	0.007	0.051
TX	LUBBOCK CO	222,636	ND	ND	ND	ND	ND	18*	42*	ND	ND
TX	MARION CO	9,984	ND	ND	0.005	0.12	0.09	ND	ND	ND	ND
TX	MONTGOMERY CO	182,201	ND	ND	IN	0.12	ND	ND	ND	ND	ND
TX	NUECES CO	291,145	ND	ND	0.10	0.09	35*	88*	0.002	0.019	
TX	ORANGE CO	80,509	ND	ND	0.009	0.09	0.06	ND	ND	ND	ND
TX	SMITH CO	151,309	ND	ND	0.007	0.12	0.10	ND	ND	ND	ND
TX	TARRANT CO	1,170,103	3	ND	0.017	0.15	0.10	22*	44*	ND	ND
TX	TRAVIS CO	576,407	1	ND	0.006	0.11	0.10	IN	IN	ND	ND
TX	VICTORIA CO	74,361	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
TX	WEBB CO	133,239	4	0.02	ND	0.08	0.07	IN	IN	ND	ND
UT	CACHE CO	70,183	IN	ND	ND	0.08	0.07	IN	65	ND	ND
UT	DAVIS CO	187,941	3	ND	0.020	0.11	0.08	ND	ND	0.002	0.006
UT	GRAND CO	6,620	ND	ND	ND	ND	ND	IN	57	ND	ND
UT	SALT LAKE CO	725,956	6	0.08	0.028	0.11	0.08	46*	113*	0.004	0.010
UT	SAN JUAN CO	12,621	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
UT	UTAH CO	263,590	6	ND	0.024	0.11	0.08	33*	91*	ND	ND
UT	WASHINGTON CO	48,560	ND	ND	ND	ND	ND	ND	IN	ND	ND
UT	WEBER CO	158,330	6	ND	0.026	0.10	0.07	29*	70*	ND	ND
VT	BENNINGTON CO	35,845	ND	ND	ND	0.11	0.08	ND	ND	ND	ND
VT	CHITTENDEN CO	131,761	2	ND	0.017	0.09	0.08	ND	IN	0.002	0.008
VT	RUTLAND CO	62,142	2	ND	0.012	ND	ND	ND	IN	0.005	0.022
VT	WASHINGTON CO	54,928	ND	ND	ND	ND	ND	ND	IN	ND	ND
VA	ARLINGTON CO	170,936	4	ND	0.025	0.13	0.10	ND	ND	ND	ND
VA	CAROLINE CO	19,217	ND	ND	IN	0.11	0.09	ND	ND	ND	ND
VA	CARROLL CO	26,594	ND	ND	ND	ND	ND	19	39	ND	ND
VA	CHARLES CITY CO	6,282	ND	ND	0.011	0.13	0.10	ND	ND	0.005	0.017
VA	CHESTERFIELD CO	209,274	ND	ND	ND	0.12	0.09	ND	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
VA	CULPEPER CO	27,791	ND	ND	ND	ND	18	40	ND	ND	ND
VA	FAIRFAX CO	818,584	3	ND	0.023	0.12	0.10	20	56	0.009	0.026
VA	FAUQUIER CO	48,741	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
VA	FREDERICK CO	45,723	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
VA	HANOVER CO	63,306	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
VA	HENRICO CO	217,881	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
VA	KING WILLIAM CO	10,913	ND	ND	ND	ND	ND	18	45	ND	ND
VA	LOUDOUN CO	86,129	ND	ND	0.014	0.11	0.09	ND	ND	ND	ND
VA	MADISON CO	11,949	ND	ND	ND	0.11	0.09	ND	ND	IN	0.010
VA	NORTHUMBERLAND CO	10,524	ND	ND	ND	ND	ND	19	53	ND	ND
VA	PAGE CO	21,690	ND	ND	ND	0.09	0.09	ND	ND	ND	ND
VA	PRINCE WILLIAM CO	215,686	ND	ND	0.012	0.11	0.09	IN	IN	ND	ND
VA	ROANOKE CO	79,332	ND	ND	0.012	0.11	0.09	ND	ND	0.003	0.010
VA	ROCKBRIDGE CO	18,350	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
VA	ROCKINGHAM CO	57,482	ND	ND	ND	ND	ND	25	41	0.003	0.013
VA	STAFFORD CO	61,236	ND	ND	ND	0.12	0.09	ND	ND	ND	ND
VA	TAZEWELL CO	45,960	ND	ND	ND	ND	ND	IN	IN	ND	ND
VA	WARREN CO	26,142	ND	ND	ND	ND	ND	20	40	ND	ND
VA	WISE CO	39,573	ND	ND	ND	ND	ND	21	39	ND	ND
VA	WYTHE CO	25,466	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
VA	ALEXANDRIA	111,183	4	ND	0.025	0.12	0.10	ND	ND	0.005	0.024
VA	CHARLOTTESVILLE	40,341	ND	ND	ND	ND	ND	IN	37	ND	ND
VA	CHESAPEAKE	151,976	ND	ND	ND	ND	ND	IN	44	ND	ND
VA	FREDERICKSBURG	19,027	ND	ND	ND	ND	ND	18	37	ND	ND
VA	HAMPTON	133,793	3	ND	ND	0.14	0.10	19	50	0.004	0.014
VA	NEWPORT NEWS	170,045	2	ND	ND	ND	ND	ND	ND	ND	ND
VA	NORFOLK	261,229	5	ND	0.017	ND	ND	19	46	0.007	0.022
VA	RICHMOND	203,056	2	ND	0.020	ND	ND	19	36	0.005	0.017
VA	ROANOKE	96,397	4	ND	ND	ND	ND	IN	64	ND	ND
VA	SUFFOLK	52,141	ND	ND	ND	0.13	0.09	ND	ND	ND	ND
VA	WINCHESTER	21,947	ND	ND	ND	ND	ND	22	46	ND	ND
WA	ASOTIN CO	17,605	ND	ND	ND	ND	ND	31	82	ND	ND
WA	BENTON CO	112,560	ND	ND	ND	ND	ND	IN	86	ND	ND
WA	CHELAN CO	52,250	ND	ND	ND	ND	ND	IN	44	ND	ND
WA	CLALLAM CO	56,464	ND	ND	ND	0.05	0.04	ND	IN	0.002	0.007
WA	CLARK CO	238,053	7	ND	ND	0.07	0.06	16*	34*	ND	ND
WA	COWLITZ CO	82,119	ND	ND	ND	0.07	0.05	20*	38*	ND	ND
WA	KING CO	1,507,319	6	0.05	0.019	0.09	0.07	IN	50	IN	0.018
WA	KITSAP CO	189,731	ND	ND	ND	ND	ND	15*	34*	ND	ND
WA	KITTITAS CO	26,725	ND	ND	ND	ND	ND	IN	46	ND	ND
WA	KLICKITAT CO	16,616	ND	ND	ND	0.08	0.06	ND	ND	ND	ND
WA	LEWIS CO	59,358	ND	ND	ND	0.06	IN	ND	ND	ND	ND
WA	PIERCE CO	586,203	7	ND	ND	0.09	0.07	17*	56*	IN	0.020
WA	SKAGIT CO	79,555	ND	ND	ND	0.06	0.05	ND	ND	IN	0.025
WA	SNOHOMISH CO	465,642	5	ND	ND	ND	ND	16*	35*	IN	0.011
WA	SPOKANE CO	361,364	6	ND	ND	0.07	0.07	26*	86*	ND	ND
WA	STEVENS CO	30,948	ND	ND	ND	ND	ND	IN	60	ND	ND
WA	THURSTON CO	161,238	5	ND	ND	0.08	0.06	IN	35	ND	ND
WA	WALLA WALLA CO	48,439	ND	ND	ND	ND	ND	40*	92*	ND	ND
WA	WHATCOM CO	127,780	ND	ND	ND	0.06	0.05	14	26	IN	0.016
WA	YAKIMA CO	188,823	5	ND	ND	ND	ND	25*	82*	ND	ND
WV	BERKELEY CO	59,253	ND	ND	ND	ND	ND	22	57	ND	ND
WV	BROOKE CO	26,992	ND	ND	ND	ND	ND	28	61	0.012	0.065
WV	CABELL CO	96,827	ND	ND	ND	0.12	0.10	IN	45	0.005	0.019
WV	FAYETTE CO	47,952	ND	ND	ND	ND	ND	IN	ND	ND	ND

**Table A-14.** Maximum Air Quality Concentrations by County, 1999 (continued)

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
WV	GREENBRIER CO	34,693	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
WV	HANCOCK CO	35,233	5	ND	ND	0.11	0.09	31	98	0.016	0.065
WV	HARRISON CO	69,371	ND	ND	ND	ND	ND	18	45	ND	ND
WV	KANAWHA CO	207,619	IN	ND	ND	0.13	0.10	IN	45	0.010	0.046
WV	MARSHALL CO	37,356	ND	ND	ND	ND	ND	IN	59	0.015	0.060
WV	MONONGALIA CO	75,509	ND	ND	ND	ND	ND	21	58	0.010	0.049
WV	OHIO CO	50,871	3	ND	ND	0.10	0.09	25	50	0.010	0.034
WV	PUTNAM CO	42,835	ND	ND	ND	ND	ND	IN	IN	ND	ND
WV	RALEIGH CO	76,819	ND	ND	ND	ND	ND	IN	39	ND	ND
WV	SUMMERS CO	14,204	ND	ND	ND	ND	ND	IN	37	ND	ND
WV	WAYNE CO	41,636	ND	ND	IN	ND	ND	IN	IN	0.009	0.042
WV	WOOD CO	86,915	ND	ND	ND	0.12	0.10	25	63	0.013	0.058
WI	BROWN CO	194,594	ND	ND	ND	0.10	0.09	ND	ND	0.003	0.011
WI	COLUMBIA CO	45,088	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	DANE CO	367,085	2	ND	ND	0.10	0.09	21*	49*	IN	0.008
WI	DODGE CO	76,559	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	DOOR CO	25,690	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
WI	DOUGLAS CO	41,758	ND	ND	ND	ND	ND	19	44	ND	ND
WI	FLORENCE CO	4,590	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	FOND DU LAC CO	90,083	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	JEFFERSON CO	67,783	ND	ND	ND	0.11	0.10	ND	ND	ND	ND
WI	KENOSHA CO	128,181	ND	ND	ND	0.13	0.10	ND	ND	ND	ND
WI	KEWAUNEE CO	18,878	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
WI	MANITOWOC CO	80,421	ND	ND	ND	0.12	0.10	ND	ND	ND	ND
WI	MARATHON CO	115,400	ND	ND	ND	0.10	0.08	IN	64	0.003	0.040
WI	MILWAUKEE CO	959,275	2	ND	0.022	0.12	0.10	27	60	0.004	0.024
WI	ONEIDA CO	31,679	ND	ND	ND	0.09	0.08	ND	ND	0.006	0.065
WI	OUTAGAMIE CO	140,510	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
WI	OZAUKEE CO	72,831	ND	ND	IN	0.12	0.10	ND	ND	ND	ND
WI	POLK CO	34,773	IN	ND	ND	ND	ND	ND	ND	ND	ND
WI	RACINE CO	175,034	3	ND	ND	0.11	0.09	ND	ND	ND	ND
WI	ROCK CO	139,510	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
WI	ST CROIX CO	50,251	ND	ND	ND	0.08	0.07	ND	ND	ND	ND
WI	SAUK CO	46,975	ND	ND	0.004	0.10	0.09	ND	ND	ND	ND
WI	SHEBOYGAN CO	103,877	ND	ND	ND	0.13	0.09	ND	ND	ND	ND
WI	VERNON CO	25,617	ND	ND	ND	0.08	0.08	IN	IN	ND	ND
WI	VILAS CO	17,707	ND	ND	ND	0.09	0.08	11*	45*	ND	ND
WI	WALWORTH CO	75,000	ND	ND	ND	0.11	0.09	ND	ND	ND	ND
WI	WASHINGTON CO	95,328	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	WAUKESHA CO	304,715	2	ND	ND	0.11	0.10	23	57	ND	ND
WI	WINNEBAGO CO	140,320	ND	ND	ND	0.10	0.09	ND	ND	ND	ND
WI	WOOD CO	73,605	ND	ND	ND	ND	ND	ND	ND	0.003	0.042
WY	ALBANY CO	30,797	ND	ND	ND	ND	ND	IN	50	ND	ND
WY	CAMPBELL CO	29,370	ND	ND	ND	ND	ND	39	132	ND	ND
WY	CARBON CO	16,659	ND	ND	ND	ND	ND	ND	IN	ND	ND
WY	CONVERSE CO	11,128	ND	ND	ND	ND	ND	28	78	ND	ND
WY	FREMONT CO	33,662	ND	ND	ND	ND	ND	IN	63	ND	ND
WY	LARAMIE CO	73,142	ND	ND	ND	ND	ND	15	30	ND	ND
WY	LINCOLN CO	12,625	ND	ND	ND	ND	ND	IN	IN	ND	ND
WY	NATRONA CO	61,226	ND	ND	ND	ND	ND	IN	52	ND	ND
WY	PARK CO	23,178	ND	ND	ND	ND	ND	IN	40	ND	ND
WY	SHERIDAN CO	23,562	ND	ND	ND	ND	ND	31*	117*	ND	ND
WY	SWEETWATER CO	38,823	ND	ND	ND	ND	ND	25*	72*	ND	ND
WY	TETON CO	11,172	ND	ND	ND	0.08	0.07	IN	39	ND	ND
PR	BARCELONETA CO	18,942	ND	ND	ND	ND	ND	IN	49	IN	0.014

State	County	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
PR	BAYAMON CO	196,206	ND	ND	ND	ND	ND	IN	55	0.003	0.021
PR	CAROLINA CO	165,954	ND	ND	ND	ND	ND	IN	IN	ND	ND
PR	CATANO CO	26,243	ND	ND	IN	0.08	0.05	IN	IN	IN	0.017
PR	FAJARDO CO	32,087	ND	ND	ND	ND	ND	IN	73	ND	ND
PR	GUAYAMA CO	40,183	ND	ND	ND	ND	ND	27	61	ND	ND
PR	GUAYNABO CO	80,742	ND	ND	ND	ND	ND	38	84	ND	ND
PR	HUMACAO CO	46,134	ND	ND	ND	ND	ND	IN	60	ND	ND
PR	MANATI CO	36,562	ND	ND	ND	ND	ND	25	58	ND	ND
PR	PONCE CO	189,046	ND	ND	ND	ND	ND	39	86	ND	ND
PR	RIO GRANDE CO	34,283	ND	ND	ND	ND	ND	IN	IN	ND	ND
PR	SAN JUAN CO	434,849	8	0.02	ND	ND	ND	IN	60	ND	ND

CO – Highest second maximum non-overlapping 8-hour concentration (Applicable NAAQS is 9 ppm)

Pb – Highest quarterly maximum concentration (Applicable NAAQS is 1.5  $\mu\text{g}/\text{m}^3$ )

$\text{NO}_2$  – Highest arithmetic mean concentration (Applicable NAAQS is 0.053 ppm)

$\text{O}_3$  (1-hr) – Highest second daily maximum 1-hour concentration (Applicable NAAQS is 0.12 ppm)

$\text{O}_3$  (8-hr) – Highest fourth daily maximum 8-hour concentration (Applicable NAAQS is 0.08 ppm)

$\text{PM}_{10}$  – Highest weighted annual mean concentration (Applicable NAAQS is 50  $\mu\text{g}/\text{m}^3$ )

– Highest second maximum 24-hour concentration (Applicable NAAQS is 150  $\mu\text{g}/\text{m}^3$ )

$\text{SO}_2$  – Highest annual mean concentration (Applicable NAAQS is 0.03 ppm)

– Highest second maximum 24-hour concentration (Applicable NAAQS is 0.14 ppm)

ND – Indicates data not available

IN – Indicates insufficient data to calculate summary statistic

Wtd – Weighted

AM – Annual mean

$\mu\text{g}/\text{m}^3$  – Units are micrograms per cubic meter

PPM – Units are parts per million

Data from exceptional events not included.

(\*) – These  $\text{PM}_{10}$  statistics were converted from local temperature and pressure to standard temperature and pressure to ensure all  $\text{PM}_{10}$  data in this table reflect standard conditions.

**Note:** The reader is cautioned that this summary is not adequate in itself to numerically rank MSAs according to their air quality. The monitoring data represent the quality of air in the vicinity of the monitoring site but may not necessarily represent urban-wide air quality.

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
AKRON, OH	657,575	3	0.01	ND	0.12	<b>0.10</b>	23	69	0.011	0.065
ALBANY, GA	112,561	ND	ND	ND	ND	ND	26	60	ND	ND
ALBANY-SCHENECTADY-TROY, NY	861,424	4	ND	IN	0.11	<b>0.09</b>	ND	ND	0.003	0.016
ALBUQUERQUE, NM	589,131	5	ND	0.016	0.10	<b>0.08</b>	35*	123*	ND	ND
ALLENTOWN-BETHLEHEM-EASTON, PA	595,081	3	0.07	0.017	<b>0.13</b>	<b>0.11</b>	ND	36*	0.009	0.037
ALTOONA, PA	130,542	2	ND	0.013	0.11	<b>0.09</b>	ND	ND	0.007	0.030
ANCHORAGE, AK	226,338	8	ND	ND	ND	ND	15	73	ND	ND
ANN ARBOR, MI	490,058	ND	ND	ND	0.11	<b>0.09</b>	ND	ND	ND	ND
APPLETON-OSHKOSH-NEENAH, WI	315,121	ND	ND	ND	0.11	<b>0.09</b>	ND	ND	ND	ND
ASHEVILLE, NC	191,774	ND	ND	ND	0.10	0.08	21	41	ND	ND
ATLANTA, GA	2,959,950	4	0.05	0.024	<b>0.16</b>	<b>0.13</b>	35	72	0.005	0.023
ATLANTIC-CAPE MAY, NJ	319,416	ND	ND	ND	0.12	<b>0.10</b>	22	46	0.003	0.009
AUGUSTA-AIKEN, GA-SC	415,184	ND	0.00	0.005	0.11	<b>0.09</b>	IN	49	IN	IN
AUSTIN-SAN MARCOS, TX	846,227	1	ND	0.006	0.11	<b>0.10</b>	ND	ND	ND	ND
BAKERSFIELD, CA	543,477	4	0.00	0.025	<b>0.14</b>	<b>0.11</b>	<b>59</b>	141	IN	IN
BALTIMORE, MD	2,382,172	5	0.00	0.024	<b>0.15</b>	<b>0.11</b>	29	61	0.006	0.020
BANGOR, ME	91,629	ND	ND	ND	0.09	0.08	17	32	ND	ND
BATON ROUGE, LA	528,264	5	0.06 <sup>a</sup>	0.019	0.12	<b>0.10</b>	34	78	0.006	0.025
BEAUMONT-PORT ARTHUR, TX	361,226	ND	ND	0.011	0.10	0.08	ND	ND	0.007	0.051
BELLINGHAM, WA	127,780	ND	ND	ND	0.06	0.05	14	26	IN	IN
BENTON HARBOR, MI	161,378	ND	ND	ND	0.11	<b>0.10</b>	ND	ND	ND	ND
BERGEN-PASSAIC, NJ	1,278,440	4	ND	ND	<b>0.13</b>	<b>0.10</b>	34	73	0.005	0.020
BILLINGS, MT	113,419	6	ND	ND	ND	ND	21	69	0.007	0.037
BILOXI-GULFPORT-PASCAGOULA, MS	312,368	ND	ND	0.006	0.11	<b>0.10</b>	IN	38	0.003	0.024
BIRMINGHAM, AL	840,140	5	ND	0.010	<b>0.13</b>	<b>0.10</b>	28	108	IN	IN
BISMARCK, ND	83,831	ND	ND	ND	ND	ND	ND	ND	0.006	0.071
BOISE CITY, ID	295,851	6	ND	0.021	ND	ND	36	101	ND	ND
BOSTON, MA-NH	3,227,707	4	0.03	0.030	0.12	<b>0.09</b>	30	65	0.007	0.040
BOULDER-LONGMONT, CO	225,339	4	ND	ND	0.10	0.08	IN	56	ND	ND
BRAZORIA, TX	191,707	ND	ND	ND	<b>0.16</b>	<b>0.11</b>	ND	ND	ND	ND
BREMERTON, WA	189,731	ND	ND	ND	ND	ND	15	33	ND	ND
BRIDGEPORT, CT	443,722	3	ND	0.018	<b>0.14</b>	<b>0.11</b>	19	41	0.006	0.023
BROCKTON, MA	236,409	ND	ND	IN	0.10	0.08	ND	ND	ND	ND
BROWNSVILLE-HARLINGEN-SAN BENITO, TX	260,120	3	0.01	ND	0.08	0.07	22*	<b>59*</b>	0.002	0.004
BUFFALO-NIAGARA FALLS, NY	1,189,288	3	0.02	0.022	0.10	<b>0.09</b>	IN	48	0.010	0.052
BURLINGTON, VT	151,506	2	ND	0.017	ND	ND	ND	ND	0.002	0.008
CANTON-MASSILLON, OH	394,106	2	ND	ND	0.11	<b>0.09</b>	24	57	0.007	0.028
CASPER, WY	61,226	ND	ND	ND	ND	ND	IN	52	ND	ND
CEDAR RAPIDS, IA	168,767	2	ND	ND	0.10	0.08	IN	54	0.005	0.071
CHAMPAIGN-URBANA, IL	173,025	ND	ND	ND	0.11	<b>0.09</b>	23	47	0.002	0.010
CHARLESTON-NORTH CHARLESTON, SC	506,875	4	0.01	0.010	0.10	0.08	21	47	0.002	0.011
CHARLESTON, WV	250,454	IN	ND	ND	<b>0.13</b>	<b>0.10</b>	IN	45	0.010	0.046
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	1,162,093	4	0.02	0.018	<b>0.13</b>	<b>0.11</b>	30	60	0.004	0.013
CHARLOTTESVILLE, VA	131,107	ND	ND	ND	ND	ND	IN	37	ND	ND
CHATTANOOGA, TN-GA	424,347	ND	ND	ND	0.12	<b>0.10</b>	29	57	ND	ND
CHEYENNE, WY	73,142	ND	ND	ND	ND	ND	15	30	ND	ND
CHICAGO, IL	7,410,858	5	0.06	0.032	0.11	<b>0.10</b>	40	120	0.009	0.044
CHICO-PARADISE, CA	182,120	4	0.00	0.015	0.11	<b>0.09</b>	29	139	ND	ND
CINCINNATI, OH-KY-IN	1,526,092	3	0.01	0.022	0.12	<b>0.10</b>	31	60	0.008	0.030
CLARKSVILLE-HOPKINSVILLE, TN-KY	169,439	ND	ND	ND	0.12	<b>0.09</b>	23	39	0.005	0.016
CLEVELAND-LORAIN-ELYRIA, OH	2,202,069	4	0.15 <sup>b</sup>	0.025	0.12	<b>0.10</b>	42	106	0.011	0.062
COLORADO SPRINGS, CO	397,014	5	0.01	0.019	0.08	0.06	22	80	0.004	0.020
COLUMBIA, SC	453,331	4	0.04	0.014	0.12	<b>0.09</b>	24	148	0.004	0.017

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999 (continued)

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax (µg/m³)	NO <sub>2</sub> AM (ppm)	O <sub>3</sub> 1-hr (ppm)	O <sub>3</sub> 8-hr (ppm)	PM <sub>10</sub> Wtd AM (µg/m³)	PM <sub>10</sub> 2nd Max (µg/m³)	SO <sub>2</sub> AM (ppm)	SO <sub>2</sub> 24-hr (ppm)
COLUMBUS, GA-AL	260,860	ND	1.04 <sup>c</sup>	ND	0.11	0.10	24	49	ND	ND
COLUMBUS, OH	1,345,450	3	0.05 <sup>d</sup>	ND	<b>0.14</b>	0.10	27	86	0.004	0.015
CORPUS CHRISTI, TX	349,894	ND	ND	ND	0.10	<b>0.09</b>	35*	88*	0.002	0.019
DALLAS, TX	2,676,248	3	0.82 <sup>e</sup>	0.021	<b>0.14</b>	0.11	32*	61*	0.004	0.033
DANBURY, CT	193,597	ND	ND	ND	<b>0.15</b>	0.11	ND	ND	0.004	0.024
DAVENPORT-MOLINE-ROCK ISLAND, IA-IL	350,861	ND	ND	ND	0.10	0.08	44	<b>177</b>	0.004	0.014
DAYTON-SPRINGFIELD, OH	951,270	3	0.01	ND	<b>0.13</b>	0.10	24	53	0.005	0.018
DAYTONA BEACH, FL	399,413	ND	ND	ND	0.09	0.08	21	56	ND	ND
DECATUR, AL	131,556	ND	ND	ND	0.10	<b>0.09</b>	IN	43	0.002	0.011
DECATUR, IL	117,206	ND	ND	ND	0.10	<b>0.09</b>	ND	ND	0.006	0.027
DENVER, CO	1,622,980	5	0.08	0.02	0.11	0.08	37	141	0.003	0.012
DES MOINES, IA	392,928	4	ND	ND	0.08	0.07	IN	76	ND	ND
DETROIT, MI	4,266,654	4	0.10	0.018	0.12	<b>0.10</b>	36	126	0.009	0.053
DOOTHAN, AL	130,964	ND	ND	ND	ND	ND	IN	IN	ND	ND
DOVER, DE	110,993	ND	ND	ND	0.12	<b>0.10</b>	ND	ND	ND	ND
DULUTH-SUPERIOR, MN-WI	239,971	2	ND	ND	0.08	0.07	25	71	ND	ND
DUTCHESS COUNTY, NY	259,462	ND	ND	ND	0.12	<b>0.09</b>	ND	ND	ND	ND
EL PASO, TX	591,610	8	0.15	0.028	0.11	0.07	<b>63</b>	129	0.003	0.016
ELKHART-GOSHEN, IN	156,198	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
ELMIRA, NY	95,195	ND	ND	ND	0.09	0.08	ND	ND	0.003	0.015
ENID, OK	56,735	ND	ND	0.008	ND	ND	ND	ND	ND	ND
ERIE, PA	275,572	6	ND	0.015	0.11	<b>0.10</b>	ND	54*	0.010	0.043
EUGENE-SPRINGFIELD, OR	282,912	5	0.02	ND	0.08	0.07	ND	ND	ND	ND
EVANSVILLE-HENDERSON, IN-KY	278,990	4	ND	0.016	0.11	<b>0.10</b>	26	60	0.007	0.056
FARGO-MOORHEAD, ND-MN	153,296	ND	ND	0.007	0.07	0.07	21	65	0.001	0.003
FAYETTEVILLE, NC	274,566	5	ND	ND	0.12	<b>0.10</b>	24	42	0.005	0.007
FLAGSTAFF, AZ-UT	101,760	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
FLINT, MI	430,459	ND	0.01	ND	0.11	<b>0.10</b>	IN	IN	0.003	0.011
FLORENCE, AL	131,327	ND	ND	ND	ND	ND	ND	ND	0.003	0.017
FLORENCE, SC	114,344	ND	0.01	ND	ND	ND	ND	ND	ND	ND
FORT COLLINS-LOVELAND, CO	186,136	5	ND	ND	0.09	0.07	16	36	ND	ND
FORT LAUDERDALE, FL	1,255,488	5	0.02	0.011	0.10	0.08	19	33	0.003	0.015
FORT MYERS-CAPE CORAL, FL	335,113	ND	ND	ND	0.10	0.08	19	32	ND	ND
FORT PIERCE-PORT ST. LUCIE, FL	251,071	ND	ND	0.010	0.08	0.07	20	39	ND	ND
FORT WAYNE, IN	456,281	3	ND	ND	0.10	<b>0.09</b>	IN	IN	ND	ND
FORT WORTH-ARLINGTON, TX	1,361,034	3	ND	0.017	<b>0.15</b>	0.10	22*	44*	ND	ND
FRESNO, CA	755,580	8	0.00	0.024	<b>0.15</b>	0.11	47	130	ND	ND
GADSDEN, AL	99,840	ND	ND	ND	ND	ND	30	66	ND	ND
GAINESVILLE, FL	181,596	ND	ND	ND	0.10	0.08	21	38	ND	ND
GALVESTON-TEXAS CITY, TX	217,399	ND	ND	0.005	<b>0.18</b>	0.12	23*	43*	0.007	0.040
GARY, IN	604,526	3	0.08	0.019	0.12	<b>0.10</b>	35	<b>166</b>	0.007	0.032
GOLDSBORO, NC	104,666	ND	ND	ND	ND	ND	20	48	ND	ND
GRAND JUNCTION, CO	93,145	5	ND	ND	ND	ND	20	52	ND	ND
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	937,891	4	0.00	ND	0.12	<b>0.10</b>	21	54	0.001	0.006
GREAT FALLS, MT	77,691	4	ND	ND	ND	ND	ND	ND	0.003	0.011
GREELEY, CO	131,821	3	ND	ND	0.09	0.07	18	47	ND	ND
GREEN BAY, WI	194,594	ND	ND	ND	0.10	<b>0.09</b>	ND	ND	0.003	0.011
GREENSBORO—WINSTON-SALEM—HIGH POINT	1,050,304	4	ND	0.016	<b>0.13</b>	0.10	25	57	0.005	0.020
GREENVILLE, NC	107,924	ND	ND	ND	0.11	<b>0.09</b>	IN	43	ND	ND
GREENVILLE-SPARTANBURG-ANDERSON, SC	830,563	5	0.01	0.017	0.12	<b>0.10</b>	26	52	0.003	0.009
HAGERSTOWN, MD	121,393	ND	ND	ND	0.11	<b>0.09</b>	ND	ND	ND	ND
HAMILTON-MIDDLETOWN, OH	291,479	ND	0.01	ND	0.12	<b>0.10</b>	31	85	0.007	0.024

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999 (continued)

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	NO <sub>2</sub> AM (ppm)	O <sub>3</sub> 1-hr (ppm)	O <sub>3</sub> 8-hr (ppm)	PM <sub>10</sub> Wtd AM ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> 2nd Max ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> AM (ppm)	SO <sub>2</sub> 24-hr (ppm)
HARRISBURG-LEBANON-CARLISLE, PA	587,986	4	ND	0.018	<b>0.13</b>	<b>0.10</b>	ND	ND	0.005	0.021
HARTFORD, CT	1,157,585	6	ND	0.018	<b>0.16</b>	<b>0.11</b>	18	81	0.004	0.019
HICKORY-MORGANTON-LENOIR, NC	292,409	ND	ND	ND	0.12	<b>0.09</b>	25	49	0.005	0.007
HONOLULU, HI	836,231	2	ND	0.004	0.05	0.05	15	41	0.001	0.004
HOUMA, LA	182,842	ND	ND	ND	0.12	<b>0.09</b>	ND	ND	ND	ND
HOUSTON, TX	3,322,025	4	0.02	0.024	<b>0.20</b>	<b>0.12</b>	45*	116*	0.005	0.019
HUNTINGTON-ASHLAND, WV-KY-OH	312,529	1	ND	0.016	0.12	<b>0.10</b>	39	89	0.009	0.026
HUNTSVILLE, AL	293,047	4	ND	ND	0.11	<b>0.09</b>	24	52	ND	ND
INDIANAPOLIS, IN	1,380,491	3	0.12 <sup>f</sup>	0.018	0.11	<b>0.10</b>	27	53	0.007	0.024
JACKSON, MS	395,396	5	ND	ND	0.11	0.08	25	53	0.002	0.007
JACKSON, TN	90,801	ND	ND	ND	ND	ND	IN	43	ND	ND
JACKSONVILLE, FL	906,727	4	0.02	0.016	0.10	0.08	28	59	0.004	0.036
JACKSONVILLE, NC	149,838	ND	ND	ND	ND	ND	IN	45	ND	ND
JAMESTOWN, NY	141,895	ND	ND	ND	0.10	<b>0.09</b>	14	40	0.008	0.060
JANESVILLE-BELOIT, WI	139,510	ND	ND	ND	0.11	<b>0.09</b>	ND	ND	ND	ND
JERSEY CITY, NJ	553,099	6	ND	0.026	<b>0.14</b>	<b>0.11</b>	35	56	0.008	0.030
JOHNSON CITY-KINGSPORT-BRISTOL, TN-VA	436,047	3	0.12	0.016	0.11	<b>0.09</b>	ND	ND	0.010	0.044
JOHNSTOWN, PA	241,247	3	0.09	0.015	0.11	<b>0.09</b>	ND	ND	0.009	0.025
JOPLIN, MO	134,910	ND	ND	ND	ND	ND	34	105	ND	ND
KALAMAZOO-BATTLE CREEK, MI	429,453	ND	ND	ND	0.10	<b>0.09</b>	IN	50	ND	ND
KANSAS CITY, MO-KS	1,582,875	5	0.01	0.015	0.12	0.08	40	118	0.003	0.011
KENOSHA, WI	128,181	ND	ND	ND	<b>0.13</b>	<b>0.10</b>	ND	ND	ND	ND
KNOXVILLE, TN	585,960	4	0.00	0.003	<b>0.13</b>	<b>0.11</b>	43	148	0.009	0.056
LAFAYETTE, LA	344,853	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
LAKE CHARLES, LA	168,134	ND	ND	0.005	<b>0.13</b>	<b>0.09</b>	ND	ND	0.004	0.015
LAKELAND-WINTER HAVEN, FL	405,382	ND	ND	ND	0.10	0.08	22	50	0.007	0.019
LANCASTER, PA	422,822	2	ND	0.015	<b>0.13</b>	<b>0.10</b>	ND	ND	0.005	0.021
LANSING-EAST LANSING, MI	432,674	ND	ND	ND	0.10	<b>0.09</b>	ND	ND	ND	ND
LAREDO, TX	133,239	4	0.02	ND	0.08	0.07	ND	ND	ND	ND
LAS CRUCES, NM	135,510	4	ND	0.012	0.10	0.08	45	88	0.001	0.008
LAS VEGAS, NV-AZ	852,737	8	ND	ND	0.10	0.08	<b>56</b>	<b>281</b>	ND	ND
LAWRENCE, MA-NH	353,232	ND	ND	ND	0.09	0.07	ND	ND	0.005	0.021
LAWTON, OK	111,486	2	ND	ND	0.09	0.08	ND	ND	ND	ND
LEWISTON-AUBURN, ME	93,679	ND	ND	ND	ND	ND	IN	45	0.004	0.016
LEXINGTON, KY	405,936	2	ND	0.013	0.11	<b>0.09</b>	23	54	0.008	0.020
LIMA, OH	154,340	ND	ND	ND	0.11	<b>0.09</b>	17	32	0.003	0.013
LINCOLN, NE	213,641	6	ND	ND	0.06	0.05	ND	ND	ND	ND
LITTLE ROCK-NORTH LITTLE ROCK, AR	513,117	4	ND	0.011	0.11	<b>0.09</b>	32*	70*	0.002	0.005
LONGVIEW-MARSHALL, TX	193,801	ND	ND	0.007	<b>0.13</b>	<b>0.11</b>	ND	ND	0.002	0.011
LOS ANGELES-LONG BEACH, CA	8,863,164	<b>11</b>	0.09	0.051	<b>0.14</b>	<b>0.10</b>	<b>56</b>	119	0.005	0.019
LOUISVILLE, KY-IN	948,829	5	ND	0.014	0.12	<b>0.10</b>	28	60	0.007	0.032
LOWELL, MA-NH	280,578	4	ND	ND	ND	ND	ND	ND	ND	ND
LUBBOCK, TX	222,636	ND	ND	ND	ND	ND	18*	42*	ND	ND
MACON, GA	290,909	ND	ND	ND	<b>0.13</b>	<b>0.11</b>	IN	53	ND	ND
MADISON, WI	367,085	2	ND	ND	0.10	<b>0.09</b>	21	48	IN	IN
MANCHESTER, NH	50,000	ND	ND	IN	ND	ND	16	41	IN	IN
MANSFIELD, OH	174,007	ND	ND	ND	ND	ND	23	53	ND	ND
MCALLEN-EDINBURG-MISSION, TX	383,545	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
MEDFORD-ASHLAND, OR	146,389	6	0.00	ND	0.08	IN	IN	93	ND	ND
MELBOURNE-TITUSVILLE-PALM BAY, FL	398,978	ND	ND	ND	0.09	0.08	19	52	ND	ND
MEMPHIS, TN-AR-MS	1,007,306	5	0.65 <sup>g</sup>	0.025	<b>0.13</b>	<b>0.10</b>	27	64	0.006	0.028
MERCED, CA	178,403	ND	ND	0.012	<b>0.13</b>	<b>0.11</b>	IN	IN	ND	ND
MIAMI, FL	1,937,094	4	ND	0.017	0.11	0.08	24	44	0.001	0.003

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999 (continued)

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax (µg/m³)	NO <sub>2</sub> AM (ppm)	O <sub>3</sub> 1-hr (ppm)	O <sub>3</sub> 8-hr (ppm)	PM <sub>10</sub> Wtd AM (µg/m³)	PM <sub>10</sub> 2nd Max (µg/m³)	SO <sub>2</sub> AM (ppm)	SO <sub>2</sub> 24-hr (ppm)
MIDDLESEX-SOMERSET-HUNTERDON, NJ	1,019,835	3	0.18 <sup>h</sup>	0.019	<b>0.15</b>	<b>0.11</b>	ND	ND	0.005	0.016
MILWAUKEE-WAUKESHA, WI	1,432,149	2	ND	0.022	0.12	<b>0.10</b>	27	60	0.004	0.024
MINNEAPOLIS-ST. PAUL, MN-WI	2,538,834	5	0.47 <sup>l</sup>	0.022	0.09	0.08	35	88	0.004	0.030
MOBILE, AL	476,923	ND	ND	ND	0.12	<b>0.09</b>	25	84	0.008	0.041
MODESTO, CA	370,522	6	0.00	0.022	0.11	<b>0.09</b>	43	137	ND	ND
MONMOUTH-OCEAN, NJ	986,327	3	ND	ND	<b>0.14</b>	<b>0.11</b>	ND	ND	ND	ND
MONROE, LA	142,191	ND	ND	ND	0.10	0.08	ND	ND	0.003	0.010
MONTGOMERY, AL	292,517	ND	ND	ND	0.11	<b>0.09</b>	24	48	ND	ND
MUNCIE, IN	119,659	ND	0.76 <sup>j</sup>	ND	ND	ND	ND	ND	ND	ND
MYRTLE BEACH, SC	144,053	ND	0.01	ND	ND	ND	ND	ND	ND	ND
NAPLES, FL	152,099	ND	ND	ND	ND	ND	17	30	ND	ND
NASHUA, NH	168,233	5	ND	IN	0.10	<b>0.09</b>	17	40	0.005	0.016
NASHVILLE, TN	985,026	5	1.02 <sup>k</sup>	0.019	0.12	<b>0.10</b>	32	74	0.005	0.035
NASSAU-SUFFOLK, NY	2,609,212	5	ND	0.024	<b>0.13</b>	<b>0.11</b>	16	41	0.007	0.038
NEW BEDFORD, MA	175,641	ND	ND	ND	<b>0.13</b>	<b>0.10</b>	ND	ND	ND	ND
NEW HAVEN-MERIDEN, CT	530,180	3	ND	0.026	<b>0.15</b>	<b>0.11</b>	20	76	0.007	0.027
NEW LONDON-NORWICH, CT-RI	290,734	ND	ND	ND	<b>0.13</b>	<b>0.10</b>	17	36	IN	IN
NEW ORLEANS, LA	1,285,270	3	0.08	0.022	0.12	<b>0.09</b>	27	60	0.005	0.023
NEW YORK, NY	8,546,846	5	0.10	0.041	<b>0.15</b>	<b>0.11</b>	IN	46	0.013	0.045
NEWARK, NJ	1,915,928	7	ND	0.042	0.12	<b>0.10</b>	33	67	0.007	0.023
NEWBURGH, NY-PA	335,613	ND	0.20 <sup>l</sup>	ND	0.12	<b>0.09</b>	ND	ND	ND	ND
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS,V	1,443,244	5	ND	0.017	<b>0.14</b>	<b>0.10</b>	19	50	0.007	0.022
OAKLAND, CA	2,082,914	5	0.00	0.022	<b>0.14</b>	<b>0.09</b>	26	94	0.003	0.020
OCALA, FL	194,833	ND	ND	ND	0.10	0.08	ND	ND	ND	ND
OKLAHOMA CITY, OK	958,839	4	ND	0.014	0.10	0.08	ND	ND	0.004	0.009
OLYMPIA, WA	161,238	5	ND	ND	0.08	0.06	IN	35	ND	ND
OMAHA, NE-IA	639,580	9	0.81 <sup>m</sup>	ND	0.09	0.08	43	131	0.001	0.003
ORANGE COUNTY, CA	2,410,556	6	ND	0.035	0.11	0.08	37	73	0.002	0.005
ORLANDO, FL	1,224,852	3	ND	0.012	0.10	0.08	26	49	0.002	0.007
OWENSBORO, KY	87,189	1	ND	0.011	0.10	<b>0.09</b>	25	63	0.006	0.024
PANAMA CITY, FL	126,994	ND	ND	ND	ND	ND	IN	50	ND	ND
PARKERSBURG-MARIETTA, WV-OH	149,169	ND	ND	ND	0.12	<b>0.10</b>	28	72	0.013	0.058
PENSACOLA, FL	344,406	ND	ND	IN	0.11	<b>0.09</b>	23	56	0.004	0.029
PEORIA-PEKIN, IL	339,172	5	0.02	ND	0.10	0.08	23	52	0.007	0.036
PHILADELPHIA, PA-NJ	4,922,175	5	0.84 <sup>n</sup>	0.032	<b>0.15</b>	<b>0.11</b>	22	59*	0.010	0.034
PHOENIX-MESA, AZ	2,238,480	8	ND	0.041	0.12	0.09	<b>60</b>	<b>219</b>	0.003	0.012
PITTSBURGH, PA	2,384,811	4	0.08	0.029	<b>0.13</b>	<b>0.10</b>	37	121	0.015	0.089
PITTSFIELD, MA	88,695	ND	ND	ND	0.09	0.08	ND	ND	ND	ND
POCATELLO, ID	66,026	ND	ND	IN	ND	ND	30	<b>168</b>	0.007	0.046
PONCE, PR	3,442,660	ND	ND	ND	ND	ND	39	86	ND	ND
PORTLAND, ME	221,095	ND	ND	ND	0.11	0.08	23	61	0.005	0.014
PORTLAND-VANCOUVER, OR-WA	1,515,452	7	0.18	IN	0.09	0.07	16	63	ND	ND
PORTSMOUTH-ROCHESTER, NH-ME	223,271	ND	ND	0.010	0.12	<b>0.09</b>	16	34	0.004	0.019
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	1,134,350	4	ND	0.024	<b>0.13</b>	<b>0.09</b>	29	61	0.007	0.026
PROVO-OREM, UT	263,590	6	ND	0.024	0.11	0.08	32	91	ND	ND
PUEBLO, CO	123,051	ND	ND	ND	ND	ND	IN	51	ND	ND
RACINE, WI	175,034	3	ND	ND	0.11	<b>0.09</b>	ND	ND	ND	ND
RALEIGH-DURHAM-CHAPEL HILL, NC	855,545	5	ND	ND	<b>0.13</b>	<b>0.11</b>	23	49	0.005	0.009
RAPID CITY, SD	81,343	ND	ND	ND	ND	ND	28	108	ND	ND
READING, PA	336,523	3	0.84 <sup>o</sup>	0.021	<b>0.13</b>	<b>0.10</b>	ND	55*	0.008	0.027
REDDING, CA	147,036	ND	ND	ND	0.11	<b>0.09</b>	IN	42	ND	ND
RENO, NV	254,667	7	ND	IN	0.10	0.08	<b>55</b>	116	ND	ND
RICHLAND-KENNEWICK-PASCO, WA	150,033	ND	ND	ND	ND	ND	IN	86	ND	ND

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999 (continued)

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	NO <sub>2</sub> AM (ppm)	O <sub>3</sub> 1-hr (ppm)	O <sub>3</sub> 8-hr (ppm)	PM <sub>10</sub> Wtd AM ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> 2nd Max ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> AM (ppm)	SO <sub>2</sub> 24-hr (ppm)
RICHMOND-PETERSBURG, VA	865,640	2	ND	0.02	<b>0.13</b>	<b>0.10</b>	19	36	0.005	0.017
RIVERSIDE-SAN BERNARDINO, CA	2,588,793	4	0.05	0.039	<b>0.16</b>	<b>0.13</b>	<b>72</b>	134	0.002	0.009
ROANOKE, VA	224,477	4	ND	0.012	0.11	<b>0.09</b>	IN	64	0.003	0.010
ROCHESTER, MN	106,470	ND	ND	ND	ND	ND	IN	IN	ND	ND
ROCHESTER, NY	1,062,470	3	ND	ND	0.10	<b>0.09</b>	ND	ND	0.007	0.041
ROCKFORD, IL	329,676	4	ND	ND	0.09	0.08	ND	ND	ND	ND
ROCKY MOUNT, NC	133,235	ND	ND	ND	0.10	<b>0.09</b>	IN	IN	0.005	0.007
SACRAMENTO, CA	1,340,010	6	0.00	0.021	<b>0.14</b>	<b>0.11</b>	33	143	0.004	0.012
ST. CLOUD, MN	190,921	3	ND	ND	ND	ND	IN	IN	ND	ND
ST. JOSEPH, MO	83,083	ND	ND	ND	ND	ND	IN	99	0.003	0.013
ST. LOUIS, MO-IL	1,836,302	4	<b>6.75<sup>p</sup></b>	0.027	<b>0.13</b>	<b>0.10</b>	44	117	0.009	0.059
SALEM, OR	278,024	6	ND	ND	0.08	0.07	ND	ND	ND	ND
SALINAS, CA	355,660	2	ND	0.010	0.08	0.06	29	76	ND	ND
SALT LAKE CITY-OGDEN, UT	1,072,227	6	0.08	0.028	0.11	0.08	45	113	0.004	0.010
SAN ANTONIO, TX	1,324,749	4	ND	0.025	0.11	<b>0.09</b>	ND	46*	ND	ND
SAN DIEGO, CA	2,498,016	5	0.00	0.026	0.11	<b>0.09</b>	<b>52</b>	112	0.003	0.016
SAN FRANCISCO, CA	1,603,678	5	0.00	0.021	0.10	0.06	26	69	0.002	0.006
SAN JOSE, CA	1,497,577	6	0.00	0.026	0.12	0.08	29	94	ND	ND
SAN JUAN-BAYAMON, PR	1,836,302	8	0.02	IN	0.08	0.05	38	84	0.003	0.015
SAN LUIS OBISPO-ATASCADERO-PASO ROBLE	217,162	3	ND	0.013	0.09	0.08	27	82	0.005	0.027
SANTA BARBARA-SANTA MARIA-LOMPOC, CA	369,608	4	0.00	0.022	0.10	0.08	29	54	0.002	0.003
SANTA CRUZ-WATSONVILLE, CA	229,734	1	ND	0.005	0.08	0.07	31	75	0.001	0.002
SANTA FE, NM	117,043	2	ND	ND	ND	ND	13	31	ND	ND
SANTA ROSA, CA	388,222	3	ND	0.014	0.10	0.08	18	64	ND	ND
SARASOTA-BRADENTON, FL	489,483	3	ND	0.007	0.11	<b>0.09</b>	24	42	0.004	0.017
SAVANNAH, GA	258,060	ND	ND	ND	0.11	0.08	27	59	0.003	0.018
SCRANTON—WILKES-BARRE—HAZLETON, PA	638,466	3	ND	0.015	0.12	<b>0.10</b>	ND	ND	0.007	0.023
SEATTLE-BELLEVUE-EVERETT, WA	2,033,156	6	0.05 <sup>q</sup>	0.019	0.09	0.07	16	50	IN	IN
SHARON, PA	121,003	ND	ND	ND	0.11	<b>0.09</b>	ND	ND	0.007	0.039
SHEBOYGAN, WI	103,877	ND	ND	ND	<b>0.13</b>	<b>0.09</b>	ND	ND	ND	ND
SHREVEPORT-BOSSIER CITY, LA	376,330	ND	ND	ND	0.11	<b>0.09</b>	IN	41	0.002	0.006
SIOUX CITY, IA-NE	115,018	ND	ND	ND	ND	ND	28	73	ND	ND
SIOUX FALLS, SD	139,236	ND	ND	ND	0.07	IN	22	44	ND	ND
SOUTH BEND, IN	247,052	ND	ND	IN	0.11	<b>0.09</b>	IN	49	ND	ND
SPOKANE, WA	361,364	6	ND	ND	0.07	0.07	26	86	ND	ND
SPRINGFIELD, IL	189,550	2	ND	ND	0.10	0.08	20	45	0.006	0.059
SPRINGFIELD, MO	264,346	3	ND	0.013	0.10	0.08	18	34	0.004	0.039
SPRINGFIELD, MA	587,884	6	ND	0.022	0.11	<b>0.09</b>	30	66	0.005	0.024
STAMFORD-NORWALK, CT	329,935	4	ND	ND	<b>0.14</b>	<b>0.11</b>	29	49	0.006	0.026
STATE COLLEGE, PA	123,786	ND	ND	ND	0.10	<b>0.09</b>	ND	ND	ND	ND
STEUBENVILLE-WEIRTON, OH-WV	142,523	5	ND	ND	0.11	<b>0.09</b>	34	98	0.016	0.065
STOCKTON-LODI, CA	480,628	6	0.00	0.024	<b>0.13</b>	<b>0.09</b>	36	123	ND	ND
SYRACUSE, NY	742,177	3	ND	ND	0.10	<b>0.09</b>	ND	ND	0.002	0.015
TACOMA, WA	586,203	7	ND	ND	0.09	0.07	17	56	IN	IN
TALLAHASSEE, FL	233,598	ND	ND	ND	0.09	0.08	19	55	ND	ND
TAMPA-ST. PETERSBURG-CLEARWATER, FL	2,067,959	5	1.02 <sup>r</sup>	0.016	0.12	<b>0.09</b>	35	81	0.008	0.060
TERRE HAUTE, IN	147,585	ND	ND	ND	0.09	0.08	IN	IN	0.006	0.025
TEXARKANA, TX-TEXARKANA, AR	120,132	ND	ND	ND	ND	ND	ND	ND	IN	IN
TOLEDO, OH	614,128	3	0.26	ND	<b>0.13</b>	<b>0.09</b>	23	58	0.004	0.018
TOPEKA, KS	160,976	ND	ND	ND	ND	ND	25	74	ND	ND
TRENTON, NJ	325,824	ND	ND	0.017	<b>0.15</b>	<b>0.11</b>	21	48	ND	ND
TUSCON, AZ	666,880	4	ND	0.019	0.09	0.07	48	<b>207</b>	0.002	0.005

**Table A-15.** Maximum Air Quality Concentrations by Metropolitan Statistical Area, 1999 (continued)

Metropolitan Statistical Area	1990 Population	CO 8-hr (ppm)	Pb QMax ( $\mu\text{g}/\text{m}^3$ )	$\text{NO}_2$ AM (ppm)	$\text{O}_3$ 1-hr (ppm)	$\text{O}_3$ 8-hr (ppm)	$\text{PM}_{10}$ Wtd AM ( $\mu\text{g}/\text{m}^3$ )	$\text{PM}_{10}$ 2nd Max ( $\mu\text{g}/\text{m}^3$ )	$\text{SO}_2$ AM (ppm)	$\text{SO}_2$ 24-hr (ppm)
TULSA, OK	708,954	4	ND	0.017	0.12	<b>0.09</b>	22*	65*	0.011	0.083
TUSCALOOSA, AL	150,522	ND	ND	ND	ND	ND	28	61	ND	ND
TYLER, TX	151,309	ND	ND	0.007	0.12	<b>0.10</b>	ND	ND	ND	ND
UTICA-ROME, NY	316,633	ND	ND	ND	0.09	0.08	IN	46	0.001	0.007
VALLEJO-FAIRFIELD-NAPA, CA	451,186	5	ND	0.014	0.12	<b>0.09</b>	20	62	0.002	0.006
VENTURA, CA	669,016	3	0.00	0.022	<b>0.13</b>	<b>0.10</b>	31	63	0.002	0.005
VICTORIA, TX	74,361	ND	ND	ND	0.10	<b>0.09</b>	ND	ND	ND	ND
VINELAND-MILLVILLE-BRIDGETON, NJ	138,053	ND	ND	ND	0.12	<b>0.10</b>	ND	ND	0.003	0.012
VISALIA-TULARE-PORTERVILLE, CA	311,921	4	ND	0.021	<b>0.13</b>	<b>0.11</b>	<b>55</b>	137	ND	ND
WASHINGTON, DC-MD-VA-WV	4,223,485	6	0.03	0.025	<b>0.13</b>	<b>0.11</b>	24	57	0.009	0.026
WATERBURY, CT	221,629	ND	0.01	ND	ND	ND	20	47	0.005	0.020
WATERLOO-CEDAR FALLS, IA	123,798	ND	ND	ND	ND	ND	IN	IN	ND	ND
WAUSAU, WI	115,400	ND	ND	ND	0.10	0.08	IN	64	0.003	0.040
WEST PALM BEACH-BOCA RATON, FL	863,518	3	0.00	0.013	0.10	0.08	20	33	0.002	0.013
WHEELING, WV-OH	159,301	3	ND	ND	0.10	<b>0.09</b>	26	69	0.015	0.060
WICHITA, KS	485,270	5	ND	ND	0.10	0.08	31	86	ND	ND
WILLIAMSPORT, PA	118,710	ND	ND	ND	0.09	0.08	ND	ND	0.005	0.021
WILMINGTON-NEWARK, DE-MD	513,293	3	ND	0.018	<b>0.15</b>	<b>0.11</b>	24*	49*	0.008	0.049
WILMINGTON, NC	171,269	4	ND	ND	0.08	0.07	IN	45	0.007	0.027
WORCESTER, MA-CT	478,384	3	ND	0.020	0.11	<b>0.09</b>	IN	65	0.004	0.013
YAKIMA, WA	188,823	5	ND	ND	ND	ND	25	82	ND	ND
YOLO, CA	141,092	1	ND	0.012	0.12	<b>0.09</b>	33	144	ND	ND
YORK, PA	339,574	2	ND	0.019	0.12	<b>0.09</b>	ND	ND	0.007	0.019
YOUNGSTOWN-WARREN, OH	600,859	ND	ND	ND	0.11	<b>0.10</b>	26	135	0.008	0.029
YUBA CITY, CA	122,643	4	ND	0.014	0.11	0.08	38	<b>156</b>	ND	ND
YUMA, AZ	106,895	ND	ND	ND	0.09	0.08	ND	ND	ND	ND

- CO — Highest second maximum non-overlapping 8-hour concentration (Applicable NAAQS is 9 ppm)  
 Pb — Highest quarterly maximum concentration (Applicable NAAQS is 1.5  $\mu\text{g}/\text{m}^3$ )  
 $\text{NO}_2$  — Highest arithmetic mean concentration (Applicable NAAQS is 0.053 ppm)  
 $\text{O}_3$  (1-hr) — Highest second daily maximum 1-hour concentration (Applicable NAAQS is 0.12 ppm)  
 $\text{O}_3$  (8-hr) — Highest fourth daily maximum 8-hour concentration (Applicable NAAQS is 0.08 ppm)  
 $\text{PM}_{10}$  — Highest weighted annual mean concentration (Applicable NAAQS is 50  $\mu\text{g}/\text{m}^3$ )  
 — Highest second maximum 24-hour concentration (Applicable NAAQS is 150  $\mu\text{g}/\text{m}^3$ )  
 $\text{SO}_2$  — Highest annual mean concentration (Applicable NAAQS is 0.03 ppm)  
 — Highest second maximum 24-hour concentration (Applicable NAAQS is 0.14 ppm)  
 ND — Indicates data not available  
 IN — Indicates insufficient data to calculate summary statistic  
 Wtd — Weighted  
 AM — Annual mean  
 $\mu\text{g}/\text{m}^3$  — Units are micrograms per cubic meter  
 PPM — Units are parts per million

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>AKRON, OH</b>												
CO	2nd max 8-hour	Down	1	5.7	3.3	4.1	3.1	5.3	3.3	3.4	3.2	2.6
O <sub>3</sub>	4th max 8-hour	NS	2	0.09	0.101	0.087	0.093	0.086	0.092	0.091	0.087	0.097
	2nd daily max 1-hour	NS	2	0.111	0.12	0.108	0.108	0.1	0.117	0.105	0.103	0.112
PM <sub>10</sub>	90th percentile	Down	1	49	51	44	49	51	48	35	39	39
	weighted annual mean	Down	1	25.9	28.4	27.1	25	27.6	26.1	24.7	23.8	23.8
SO <sub>2</sub>	arithmetic mean	Down	1	0.015	0.015	0.013	0.015	0.012	0.009	0.01	0.012	0.01
	2nd max 24-hour	NS	1	0.061	0.051	0.064	0.056	0.042	0.046	0.042	0.072	0.044
<b>ALBANY-SCHENECTADY-TROY, NY</b>												
CO	2nd max 8-hour	Down	1	6.2	5.4	4.7	3.8	5.2	4.3	3.7	4.5	4.4
Pb	max quarterly mean	Down	1	0.133	0.037	0.033	0.033	0.043	0.041	0.032	0.031	0.032
O <sub>3</sub>	4th max 8-hour	NS	3	0.084	0.084	0.086	0.081	0.077	0.079	0.074	0.079	0.075
	2nd daily max 1-hour	NS	3	0.105	0.099	0.098	0.099	0.1	0.101	0.094	0.097	0.096
PM <sub>10</sub>	90th percentile	NS	5	36.4	35.6	33.6	34.2	40	31.8	28.8	32	36
	weighted annual mean	NS	5	20.98	21.3	21.46	19.74	21.4	18.22	19.08	19.52	19.64
SO <sub>2</sub>	arithmetic mean	Down	1	0.006	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003
	2nd max 24-hour	Down	1	0.028	0.03	0.022	0.026	0.027	0.016	0.021	0.017	0.013
<b>ALBUQUERQUE, NM</b>												
CO	2nd max 8-hour	Down	6	5.967	5.433	5.017	5.117	4.933	4.983	4.333	3.7	3.667
NO <sub>2</sub>	arithmetic mean	NS	1	0.018	0.004	0.021	0.024	0.023	0.018	0.022	0.019	0.016
O <sub>3</sub>	4th max 8-hour	NS	7	0.069	0.065	0.066	0.063	0.067	0.065	0.068	0.066	0.07
	2nd daily max 1-hour	NS	7	0.088	0.084	0.086	0.081	0.083	0.083	0.084	0.082	0.086
PM <sub>10</sub>	90th percentile	Down	8	38.875	37.125	33.75	35.5	35.5	39.375	37.5	32.625	32
	weighted annual mean	Down	8	23.95	22.488	22.788	23.45	22.25	23.75	23.925	20.788	20.575
<b>ALEXANDRIA, LA</b>												
PM <sub>10</sub>	90th percentile	Down	1	38	37	40	36	38	37	27	32	32
	weighted annual mean	NS	1	22.8	21.9	24.7	21.3	23.2	21.4	18.6	23.2	23.2
<b>ALLENTOWN-BETHLEHEM-EASTON, PA</b>												
CO	2nd max 8-hour	Down	1	5.8	6.5	3.9	3.5	4.7	4.8	3.2	2.7	2.9
Pb	max quarterly mean	Down	1	0.4	0.461	0.283	0.181	0.131	0.074	0.083	0.093	0.12
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.018	0.018	0.02	0.021	0.018	0.018	0.016	0.015
O <sub>3</sub>	4th max 8-hour	NS	2	0.093	0.101	0.081	0.084	0.082	0.094	0.089	0.097	0.092
	2nd daily max 1-hour	NS	2	0.11	0.119	0.096	0.107	0.105	0.109	0.107	0.116	0.109
SO <sub>2</sub>	arithmetic mean	NS	2	0.008	0.008	0.007	0.006	0.008	0.006	0.006	0.009	0.009
	2nd max 24-hour	NS	2	0.037	0.037	0.032	0.029	0.047	0.027	0.028	0.029	0.032
<b>ALTOONA, PA</b>												
CO	2nd max 8-hour	NS	1	1.7	1.7	2.8	2	2.4	1.7	1.9	1.5	1.2
NO <sub>2</sub>	arithmetic mean	Down	1	0.015	0.015	0.014	0.015	0.015	0.013	0.013	0.014	0.013
O <sub>3</sub>	4th max 8-hour	NS	1	0.081	0.092	0.079	0.086	0.092	0.091	0.083	0.096	0.098
	2nd daily max 1-hour	up	1	0.097	0.106	0.095	0.1	0.106	0.112	0.101	0.114	0.114
SO <sub>2</sub>	arithmetic mean	Down	1	0.011	0.011	0.009	0.009	0.01	0.008	0.008	0.01	0.008
	2nd max 24-hour	Down	1	0.062	0.044	0.046	0.052	0.058	0.037	0.033	0.046	0.032
<b>ANCHORAGE, AK</b>												
PM <sub>10</sub>	90th percentile	Down	3	63.333	57.333	61.333	55.333	50.333	50.667	48	51.333	37.333
	weighted annual mean	Down	3	30.933	29.633	31.267	27.567	26.6	26.033	24.8	24.5	20.067
<b>ANNISTON, AL</b>												
PM <sub>10</sub>	90th percentile	NS	1	46	46	37	38	40	40	27	42	41
	weighted annual mean	NS	1	28	29.2	24.6	25	23.7	22.8	18.7	23.1	26
<b>ASHEVILLE, NC</b>												
O <sub>3</sub>	4th max 8-hour	up	1	0.073	0.063	0.064	0.066	0.069	0.076	0.074	0.075	0.09
	2nd daily max 1-hour	up	1	0.091	0.079	0.083	0.079	0.084	0.085	0.084	0.09	0.114
PM <sub>10</sub>	90th percentile	NS	1	41	41	40	43	30	28	29	38	36
	weighted annual mean	Down	1	25.1	24	22.8	22.3	19	18.4	18.8	20.7	20.1
<b>ATLANTA, GA</b>												
CO	2nd max 8-hour	Down	1	5.4	6.5	5.1	4.9	5.3	4.5	3.7	4.3	4.1
NO <sub>2</sub>	arithmetic mean	NS	2	0.021	0.02	0.02	0.02	0.018	0.017	0.021	0.02	0.021
O <sub>3</sub>	4th max 8-hour	NS	3	0.107	0.093	0.091	0.112	0.093	0.112	0.103	0.102	0.117
	2nd daily max 1-hour	NS	3	0.137	0.124	0.127	0.148	0.12	0.143	0.129	0.132	0.144
PM <sub>10</sub>	90th percentile	NS	3	68.333	53.333	45.667	47	43.333	45.333	41	48.667	49.667
	weighted annual mean	Down	3	38.9	32.067	28.067	28.567	26.867	28.267	26.8	27.967	28.067
SO <sub>2</sub>	arithmetic mean	Down	3	0.006	0.006	0.006	0.006	0.004	0.004	0.004	0.004	0.003
	2nd max 24-hour	Down	3	0.025	0.029	0.026	0.032	0.022	0.018	0.019	0.021	0.016
<b>ATLANTIC-CAPE MAY, NJ</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.109	0.111	0.094	0.093	0.083	0.1	0.095	0.106	0.091
	2nd daily max 1-hour	NS	1	0.157	0.136	0.119	0.115	0.099	0.116	0.108	0.131	0.118
SO <sub>2</sub>	arithmetic mean	Down	1	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	2nd max 24-hour	NS	1	0.012	0.011	0.016	0.014	0.019	0.011	0.014	0.011	0.009
<b>AUGUSTA-AIKEN, GA-SC</b>												
Pb	max quarterly mean	Down	1	0.017	0.013	0.011	0.01	0.009	0.007	0.004	0.008	0.019
O <sub>3</sub>	4th max 8-hour	NS	3	0.085	0.072	0.074	0.084	0.08	0.079	0.083	0.084	0.096
	2nd daily max 1-hour	NS	3	0.103	0.095	0.09	0.101	0.093	0.1	0.099	0.105	0.116
PM <sub>10</sub>	90th percentile	NS	1	36	35	32	35	35	29	29	31	35
	weighted annual mean	NS	1	22.2	22.7	21.9	22.1	21.3	18.7	18.7	21.4	22.4
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	Down	1	0.009	0.01	0.009	0.009	0.008	0.009	0.007	0.008	0.007

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>AUSTIN-SAN MARCOS, TX</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.088	0.083	0.081	0.08	0.085	0.089	0.08	0.075	0.088	0.087
	2nd daily max 1-hour	NS	1	0.11	0.1	0.099	0.091	0.102	0.105	0.098	0.089	0.115	0.102
<b>BAKERSFIELD, CA</b>													
NO <sub>2</sub>	arithmetic mean	Down	4	0.017	0.017	0.016	0.015	0.015	0.013	0.013	0.013	0.014	
O <sub>3</sub>	4th max 8-hour	NS	5	0.103	0.105	0.099	0.105	0.104	0.109	0.113	0.096	0.114	0.105
	2nd daily max 1-hour	NS	5	0.13	0.13	0.122	0.128	0.13	0.13	0.138	0.118	0.134	0.122
PM <sub>10</sub>	90th percentile	Down	4	89.25	90.5	61.75	60	47.25	62	47	45	45.5	55.5
	weighted annual mean	Down	4	47.15	53.775	38.4	33.188	30.1	32.825	28.425	27.9	25.175	29.925
<b>BALTIMORE, MD</b>													
CO	2nd max 8-hour	Down	3	7.1	6.367	5.5	5.433	5.833	4.667	3.633	4.6	4.133	4.567
Pb	max quarterly mean	Down	1	0.058	0.036	0.043	0.035	0.032	0.029	0.027	0.005	0.005	0.005
NO <sub>2</sub>	arithmetic mean	Down	1	0.034	0.033	0.031	0.033	0.032	0.026	0.027	0.026	0.026	0.024
O <sub>3</sub>	4th max 8-hour	NS	7	0.098	0.108	0.092	0.106	0.096	0.104	0.091	0.105	0.098	0.106
	2nd daily max 1-hour	NS	7	0.126	0.136	0.117	0.132	0.128	0.137	0.119	0.137	0.123	0.138
PM <sub>10</sub>	90th percentile	Down	5	51.8	57.6	47	50.6	53.4	47.8	43.4	46.4	47.8	45
	weighted annual mean	Down	5	32.72	35.64	30.26	29.44	30.46	28.78	27.1	28.12	28.56	28.02
SO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.009	0.009	0.008	0.009	0.006	0.007	0.008	0.007	0.007
	2nd max 24-hour	Down	2	0.03	0.03	0.027	0.026	0.03	0.022	0.026	0.025	0.021	0.02
<b>BANGOR, ME</b>													
PM <sub>10</sub>	90th percentile	NS	1	33	41	32	34	35	32	27	33	34	24
	weighted annual mean	Down	1	20.5	25.1	21.9	22.2	21.9	20	18.8	21.1	17.5	16.7
<b>BATON ROUGE, LA</b>													
Pb	max quarterly mean	NS	3	0.051	0.03	0.104	0.027	0.038	0.049	0.032	0.041	0.045	0.043
NO <sub>2</sub>	arithmetic mean	NS	2	0.01	0.01	0.01	0.01	0.011	0.01	0.01	0.01	0.01	0.01
O <sub>3</sub>	4th max 8-hour	NS	3	0.107	0.093	0.084	0.08	0.082	0.093	0.088	0.086	0.091	0.093
	2nd daily max 1-hour	NS	3	0.154	0.132	0.107	0.111	0.115	0.123	0.114	0.119	0.127	0.115
PM <sub>10</sub>	90th percentile	NS	2	42.5	48.5	37	34.5	40.5	37.5	34.5	43.5	45.25	47
	weighted annual mean	NS	2	28.15	27.6	26.7	22.2	26.3	24.35	24.45	27.35	29.025	30.7
SO <sub>2</sub>	arithmetic mean	NS	1	0.005	0.009	0.008	0.006	0.008	0.006	0.006	0.006	0.007	0.006
	2nd max 24-hour	NS	1	0.022	0.036	0.033	0.021	0.025	0.034	0.024	0.027	0.036	0.019
<b>BEAUMONT-PORT ARTHUR, TX</b>													
NO <sub>2</sub>	arithmetic mean	NS	2	0.009	0.01	0.011	0.009	0.01	0.01	0.01	0.01	0.008	0.01
O <sub>3</sub>	4th max 8-hour	NS	3	0.087	0.097	0.094	0.088	0.08	0.098	0.082	0.092	0.085	0.072
	2nd daily max 1-hour	NS	3	0.12	0.13	0.13	0.115	0.113	0.134	0.117	0.137	0.117	0.099
SO <sub>2</sub>	arithmetic mean	Down	2	0.009	0.008	0.006	0.006	0.006	0.005	0.005	0.006	0.005	0.005
	2nd max 24-hour	Down	2	0.042	0.059	0.044	0.047	0.039	0.025	0.041	0.037	0.033	0.032
<b>BELLINGHAM, WA</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.061	0.058	0.056	0.058	0.059	0.054	0.062	0.052	0.056	0.05
	2nd daily max 1-hour	Down	1	0.082	0.073	0.069	0.08	0.082	0.079	0.078	0.07	0.07	0.062
SO <sub>2</sub>	arithmetic mean	NS	1	0.007	0.006	0.007	0.006	0.007	0.006	0.005	0.005	0.005	0.007
	2nd max 24-hour	Down	1	0.028	0.021	0.022	0.017	0.019	0.018	0.013	0.012	0.015	0.016
<b>BERGEN-PASSAIC, NJ</b>													
CO	2nd max 8-hour	Down	2	6.8	6.6	4.45	5.15	6.15	4.9	3.75	4.85	3.7	4.1
NO <sub>2</sub>	arithmetic mean	Down	1	0.031	0.031	0.03	0.029	0.031	0.029	0.028	0.028	0.028	0.028
O <sub>3</sub>	4th max 8-hour	NS	1	0.096	0.1	0.075	0.082	0.088	0.104	0.083	0.096	0.096	0.096
	2nd daily max 1-hour	NS	1	0.129	0.137	0.104	0.111	0.114	0.122	0.106	0.12	0.12	0.12
PM <sub>10</sub>	90th percentile	Down	3	59	61.667	50.333	51	57.333	49.333	47.667	48.833	46	44
	weighted annual mean	Down	3	36.933	39.333	32.967	31.167	35.167	30.633	30.533	31.183	28.5	26.9
SO <sub>2</sub>	arithmetic mean	Down	2	0.01	0.01	0.009	0.008	0.007	0.005	0.006	0.005	0.005	0.005
	2nd max 24-hour	Down	2	0.041	0.035	0.04	0.026	0.037	0.027	0.022	0.021	0.021	0.022
<b>BILLINGS, MT</b>													
SO <sub>2</sub>	arithmetic mean	Down	4	0.016	0.016	0.02	0.021	0.015	0.013	0.009	0.007	0.006	0.005
	2nd max 24-hour	Down	4	0.066	0.069	0.081	0.104	0.066	0.059	0.056	0.032	0.025	0.022
<b>BILOXI-GULFPORT-PASCAGOULA, MS</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.079	0.079	0.087	0.076	0.093	0.087	0.076	0.078	0.089	0.091
	2nd daily max 1-hour	NS	1	0.115	0.115	0.108	0.098	0.117	0.111	0.104	0.092	0.108	0.107
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.006	0.006	0.004	0.003	0.003	0.003	0.002	0.003	0.003
	2nd max 24-hour	NS	1	0.037	0.034	0.02	0.029	0.022	0.024	0.043	0.025	0.022	0.024
<b>BIRMINGHAM, AL</b>													
CO	2nd max 8-hour	Down	2	6.8	7	7.45	7.3	6.7	6.55	5.3	6	4.4	4.55
O <sub>3</sub>	4th max 8-hour	NS	6	0.093	0.075	0.083	0.082	0.077	0.096	0.093	0.083	0.097	0.09
	2nd daily max 1-hour	NS	6	0.119	0.1	0.108	0.11	0.097	0.125	0.128	0.11	0.121	0.121
PM <sub>10</sub>	90th percentile	Down	5	58.2	55.2	45.2	43.2	38.8	41.8	38.8	47.2	40.4	36.8
	weighted annual mean	Down	5	34.64	31.88	28.78	27.34	25.24	26.48	24.62	26.1	27.34	24.82
SO <sub>2</sub>	arithmetic mean	NS	1	0.008	0.007	0.007	0.009	0.007	0.006	0.004	0.006	0.007	0.007
	2nd max 24-hour	NS	1	0.025	0.02	0.027	0.05	0.037	0.016	0.015	0.018	0.032	0.026
<b>BOISE CITY, ID</b>													
PM <sub>10</sub>	90th percentile	Down	4	53.5	68	55.75	62	59.5	50	48.5	44.75	39.75	48.25
	weighted annual mean	Down	4	29.275	33.675	33.2	35.45	34.025	29.65	28.175	28.025	22.65	26.05

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>BOSTON, MA-NH</b>													
CO	2nd max 8-hour	Down	4	5.6	4.05	4.725	3.95	4.85	3.55	3.6	3.775	2.875	3.425
NO <sub>2</sub>	arithmetic mean	Down	3	0.029	0.031	0.029	0.03	0.03	0.027	0.028	0.026	0.027	0.026
O <sub>3</sub>	4th max 8-hour	NS	4	0.08	0.093	0.088	0.085	0.084	0.086	0.073	0.082	0.085	0.083
	2nd daily max 1-hour	NS	4	0.101	0.126	0.109	0.113	0.109	0.108	0.092	0.102	0.101	0.102
PM <sub>10</sub>	90th percentile	NS	8	41.375	40	36.125	36	39.25	35.125	40.25	34.75	41.875	38.375
	weighted annual mean	NS	8	25.913	24.775	22.775	22.325	23.05	21.938	23.625	22.013	24.413	24.2
SO <sub>2</sub>	arithmetic mean	Down	10	0.009	0.009	0.009	0.009	0.008	0.006	0.006	0.006	0.006	0.006
	2nd max 24-hour	Down	10	0.038	0.03	0.037	0.031	0.032	0.024	0.025	0.03	0.023	0.025
<b>BOULDER-LONGMONT, CO</b>													
CO	2nd max 8-hour	Down	2	5.7	5.7	5.85	5.25	4.45	4.2	4	4.35	3.4	2.9
O <sub>3</sub>	4th max 8-hour	NS	1	0.074	0.077	0.07	0.073	0.071	0.072	0.072	0.071	0.08	0.08
	2nd daily max 1-hour	NS	1	0.096	0.102	0.092	0.096	0.091	0.095	0.092	0.092	0.1	0.1
PM <sub>10</sub>	90th percentile	Down	2	39	43.5	34.5	43.5	28.5	27	27	24	26	26.5
	weighted annual mean	Down	2	22.9	23.2	22.6	24.25	18.95	16.2	17.2	16.6	16.9	18.15
<b>BRAZORIA, TX</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.1	0.091	0.097	0.092	0.085	0.113	0.079	0.085	0.09	0.112
	2nd daily max 1-hour	NS	1	0.15	0.13	0.129	0.132	0.112	0.148	0.11	0.137	0.111	0.161
<b>BREMERTON, WA</b>													
PM <sub>10</sub>	90th percentile	Down	1	41	41	41	47	36	33	24	27	21	23
	weighted annual mean	Down	1	22.6	22.6	22.6	23.4	19.7	20.6	16.9	17.3	12.9	15
<b>BRIDGEPORT, CT</b>													
CO	2nd max 8-hour	Down	1	5	5.5	4.7	3.7	5.8	4.9	3	4	2.8	3.2
NO <sub>2</sub>	arithmetic mean	Down	1	0.026	0.025	0.024	0.024	0.026	0.024	0.024	0.023	0.023	0.023
O <sub>3</sub>	4th max 8-hour	NS	2	0.098	0.108	0.084	0.098	0.088	0.101	0.088	0.096	0.093	0.093
	2nd daily max 1-hour	NS	2	0.145	0.147	0.119	0.157	0.152	0.131	0.114	0.132	0.132	0.135
PM <sub>10</sub>	90th percentile	Down	1	41	49	37	43	44	37	32	34	33	30
	weighted annual mean	Down	1	25.2	27.7	22.4	20.8	25.7	21.8	20.6	21.4	20.8	19.4
SO <sub>2</sub>	arithmetic mean	Down	1	0.013	0.012	0.011	0.01	0.01	0.007	0.006	0.007	0.007	0.006
	2nd max 24-hour	Down	1	0.05	0.044	0.04	0.035	0.049	0.028	0.023	0.031	0.024	0.023
<b>BROWNSVILLE-HARLINGEN-SAN BENITO, TX</b>													
PM <sub>10</sub>	90th percentile	NS	1	36	36	36	45	36	35	28	36	36	36
	weighted annual mean	Down	1	21.7	23.9	23.7	22.4	22.5	21.4	18.9	20.6	20.6	20.6
<b>BUFFALO-NIAGARA FALLS, NY</b>													
CO	2nd max 8-hour	Down	3	3.367	3.1	4.633	3.433	3.2	2.567	2.933	2.167	2.167	1.833
Pb	max quarterly mean	NS	1	0.029	0.031	0.034	0.047	0.046	0.033	0.034	0.042	0.036	0.036
NO <sub>2</sub>	arithmetic mean	NS	2	0.02	0.018	0.018	0.017	0.019	0.019	0.019	0.018	0.017	0.019
O <sub>3</sub>	4th max 8-hour	NS	2	0.089	0.094	0.08	0.077	0.082	0.088	0.077	0.077	0.092	0.089
	2nd daily max 1-hour	NS	2	0.106	0.106	0.109	0.089	0.092	0.103	0.095	0.091	0.106	0.101
PM <sub>10</sub>	90th percentile	NS	11	35.364	49	33.364	34.545	34	34.364	29	33.909	38.364	38.364
	weighted annual mean	NS	11	19.391	24.845	21.236	19.145	18.664	18.364	19.127	18.7	19.845	19.845
SO <sub>2</sub>	arithmetic mean	Down	4	0.011	0.012	0.011	0.01	0.01	0.008	0.007	0.007	0.007	0.007
	2nd max 24-hour	Down	4	0.054	0.062	0.058	0.042	0.039	0.04	0.035	0.041	0.029	0.03
<b>BURLINGTON, VT</b>													
CO	2nd max 8-hour	Down	1	4.6	3.8	3.9	3.9	3.9	2.5	3.3	2	2.4	1.5
NO <sub>2</sub>	arithmetic mean	NS	1	0.018	0.017	0.016	0.017	0.017	0.017	0.017	0.017	0.018	0.017
PM <sub>10</sub>	90th percentile	Down	2	37.5	36.5	38.5	36	34.5	34.5	29	29.5	29.5	29.5
	weighted annual mean	Down	2	24.25	23.2	22.7	20.5	21.1	20.1	20.3	20.5	20.6	20.6
SO <sub>2</sub>	arithmetic mean	Down	1	0.008	0.008	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	Down	1	0.021	0.022	0.013	0.011	0.013	0.006	0.014	0.012	0.008	0.008
<b>CANTON-MASSILLION, OH</b>													
O <sub>3</sub>	4th max 8-hour	NS	4	0.086	0.089	0.081	0.091	0.084	0.091	0.086	0.083	0.096	0.09
	2nd daily max 1-hour	NS	4	0.103	0.106	0.094	0.105	0.097	0.11	0.096	0.097	0.113	0.104
PM <sub>10</sub>	90th percentile	Down	2	52	50	45	45	50	51.5	35.5	44	43	36
	weighted annual mean	Down	2	29.55	31.2	27.65	26.25	28.45	28.75	25	25.6	25.05	23.45
SO <sub>2</sub>	arithmetic mean	Down	1	0.011	0.01	0.01	0.01	0.009	0.006	0.006	0.007	0.007	0.007
	2nd max 24-hour	Down	1	0.036	0.037	0.04	0.046	0.052	0.033	0.032	0.025	0.029	0.028
<b>CASPER, WY</b>													
PM <sub>10</sub>	90th percentile	Down	1	38	38	38	27	34	32	33	29	31	29
	weighted annual mean	NS	1	21.3	21.3	21.3	17.7	17.3	19.4	19.1	15.7	17.2	19.7
<b>CEDAR RAPIDS, IA</b>													
CO	2nd max 8-hour	NS	1	3.5	4.1	4.9	3.2	4.2	2.6	7.8	2.4	2.5	2
O <sub>3</sub>	4th max 8-hour	NS	1	0.054	0.065	0.071	0.058	0.063	0.065	0.061	0.06	0.059	0.059
	2nd daily max 1-hour	NS	1	0.065	0.081	0.081	0.067	0.07	0.075	0.073	0.071	0.068	0.068
PM <sub>10</sub>	90th percentile	NS	2	41.5	43.5	43.5	34	34	39	36	40.5	39.5	30.5
	weighted annual mean	NS	2	27.3	28.45	26.1	21.55	22.8	23.55	23.55	24.25	25.35	22.2
SO <sub>2</sub>	arithmetic mean	NS	2	0.004	0.004	0.005	0.003	0.003	0.003	0.002	0.003	0.003	0.003
	2nd max 24-hour	Down	2	0.031	0.025	0.024	0.017	0.016	0.013	0.011	0.012	0.01	0.016

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>CHAMPAIGN-URBANA, IL</b>													
O <sub>3</sub>	4th max 8-hour	up	1	0.076	0.072	0.071	0.066	0.083	0.084	0.085	0.076	0.083	0.094
	2nd daily max 1-hour	up	1	0.087	0.08	0.085	0.074	0.094	0.095	0.094	0.088	0.105	0.108
PM <sub>10</sub>	90th percentile	Down	1	46	47	47	41	44	44	31	35	39	35
	weighted annual mean	NS	1	28.2	30.4	31.4	22	24.9	22.3	19.2	22.5	24.3	22.7
SO <sub>2</sub>	arithmetic mean	Down	1	0.004	0.005	0.004	0.004	0.004	0.003	0.003	0.004	0.003	0.002
	2nd max 24-hour	NS	1	0.03	0.038	0.018	0.015	0.024	0.011	0.013	0.018	0.019	0.01
<b>CHARLESTON-NORTH CHARLESTON, SC</b>													
CO	2nd max 8-hour	NS	1	4.7	4.9	5.2	5.8	4	6.4	4.7	3.9	2.9	4
Pb	max quarterly mean	NS	1	0.039	0.039	0.01	0.007	0.012	0.01	0.01	0.011	0.026	0.008
NO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.007	0.007
O <sub>3</sub>	4th max 8-hour	up	3	0.071	0.068	0.071	0.075	0.073	0.071	0.074	0.072	0.08	0.082
	2nd daily max 1-hour	NS	3	0.089	0.085	0.09	0.1	0.088	0.089	0.097	0.089	0.097	0.099
PM <sub>10</sub>	90th percentile	Down	4	44	40	35.5	35.75	33.5	29	29.5	29.25	36.75	30
	weighted annual mean	Down	4	20.175	18.5	17.05	16.1	15.35	13.875	14.2	14.375	15.425	14.25
SO <sub>2</sub>	arithmetic mean	Down	2	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	Down	2	0.016	0.017	0.021	0.014	0.021	0.012	0.014	0.014	0.01	0.009
<b>CHARLESTON, WV</b>													
CO	2nd max 8-hour	Down	1	2.8	3.05	3.3	2.2	3.5	2.4	2.3	1.9	2	2
Pb	max quarterly mean	Down	3	0.035	0.022	0.027	0.018	0.026	0.02	0.016	0.01	0.01	0.01
O <sub>3</sub>	4th max 8-hour	NS	1	0.079	0.09	0.055	0.063	0.075	0.091	0.078	0.075	0.091	0.104
	2nd daily max 1-hour	NS	1	0.118	0.119	0.067	0.075	0.099	0.111	0.104	0.103	0.115	0.13
PM <sub>10</sub>	90th percentile	Down	1	58	47	44	52	49	40	41	32	35	37
	weighted annual mean	Down	1	36	29.3	27.6	29.2	28.1	26	24	21.1	21.4	21.9
SO <sub>2</sub>	arithmetic mean	NS	2	0.012	0.009	0.009	0.009	0.01	0.007	0.008	0.009	0.009	0.009
	2nd max 24-hour	NS	2	0.056	0.036	0.032	0.034	0.037	0.023	0.031	0.031	0.031	0.036
<b>CHARLOTTE-GASTONIA-ROCK HILL, NC-SC</b>													
CO	2nd max 8-hour	Down	5	7.06	6.3	6	5.56	5.78	4.68	4.36	4.84	4.2	3.82
Pb	max quarterly mean	NS	1	0.038	0.014	0.077	0.015	0.032	0.012	0.009	0.007	0.021	0.019
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.016	0.016	0.017	0.016	0.016	0.016	0.018	0.018	0.018
O <sub>3</sub>	4th max 8-hour	up	3	0.095	0.091	0.085	0.097	0.089	0.092	0.099	0.1	0.105	0.102
	2nd daily max 1-hour	NS	3	0.117	0.115	0.104	0.13	0.111	0.113	0.126	0.117	0.13	0.125
PM <sub>10</sub>	90th percentile	NS	4	47.75	47.5	46	41	42	40	41.5	41.75	47	42.25
	weighted annual mean	Down	4	31.3	29.875	29.375	27.35	27.875	26.425	28.225	27.4	28.125	26.775
<b>CHARLOTTESVILLE, VA</b>													
PM <sub>10</sub>	90th percentile	NS	1	44	47	32	40	33	41	35	36	33	32
	weighted annual mean	Down	1	26.9	28.4	21.6	23.7	21.5	22.5	21.3	20.9	22.7	19.9
<b>CHATTANOOGA, TN-GA</b>													
O <sub>3</sub>	4th max 8-hour	NS	2	0.092	0.08	0.079	0.088	0.088	0.09	0.088	0.088	0.1	0.096
	2nd daily max 1-hour	NS	2	0.116	0.098	0.094	0.104	0.114	0.108	0.113	0.107	0.129	0.117
PM <sub>10</sub>	90th percentile	Down	2	61	63	51.5	51.5	50.5	49	52.5	45	45	42.5
	weighted annual mean	Down	2	37.85	37.65	34.45	31.75	32.7	32.05	32.3	27.2	27.95	27.85
<b>CHEYENNE, WY</b>													
PM <sub>10</sub>	90th percentile	Down	1	30	30	25	24	28	26	25	20	22	23
	weighted annual mean	Down	1	19.4	19.4	16.6	15.5	17.8	14.6	15.1	12.9	13.9	14.9
<b>CHICAGO, IL</b>													
CO	2nd max 8-hour	Down	6	4.817	4.183	4.533	4.85	6.283	3.633	3.383	3.45	3.55	3.417
Pb	max quarterly mean	Down	9	0.072	0.056	0.065	0.063	0.054	0.054	0.044	0.04	0.04	0.034
NO <sub>2</sub>	arithmetic mean	NS	5	0.022	0.022	0.025	0.026	0.028	0.028	0.028	0.028	0.027	0.027
O <sub>3</sub>	4th max 8-hour	NS	17	0.071	0.084	0.075	0.068	0.075	0.088	0.076	0.079	0.074	0.083
	2nd daily max 1-hour	NS	17	0.092	0.113	0.102	0.085	0.097	0.114	0.095	0.098	0.094	0.098
PM <sub>10</sub>	90th percentile	NS	13	60.154	50.538	53.538	50.846	56.231	55.308	45.077	45.769	50.308	51.615
	weighted annual mean	NS	13	35.1	32.777	32.577	31.238	35.123	32.315	29.6	29.631	32.554	32.077
SO <sub>2</sub>	arithmetic mean	Down	9	0.007	0.009	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.006
	2nd max 24-hour	NS	9	0.039	0.042	0.029	0.032	0.033	0.024	0.022	0.024	0.025	0.027
<b>CHICO-PARADISE, CA</b>													
CO	2nd max 8-hour	NS	1	3.9	5.6	4.6	3.9	4.1	3.5	3.4	3.5	3.8	4
NO <sub>2</sub>	arithmetic mean	NS	1	0.015	0.016	0.016	0.016	0.015	0.014	0.013	0.013	0.013	0.015
O <sub>3</sub>	4th max 8-hour	NS	1	0.078	0.073	0.077	0.076	0.082	0.076	0.074	0.066	0.078	0.087
	2nd daily max 1-hour	NS	1	0.12	0.09	0.09	0.09	0.097	0.091	0.096	0.074	0.103	0.11
PM <sub>10</sub>	90th percentile	Down	1	67	67	67	60	55	52	40	40	37	50
	weighted annual mean	NS	1	28	28	28	27.2	33.3	26.3	25	25.9	22.3	28.6
<b>CINCINNATI, OH-KY-IN</b>													
CO	2nd max 8-hour	Down	3	4.233	4.2	4.467	4.667	4.267	3.4	2.933	2.733	3.167	2.633
NO <sub>2</sub>	arithmetic mean	NS	2	0.022	0.022	0.021	0.022	0.022	0.021	0.022	0.023	0.022	0.019
O <sub>3</sub>	4th max 8-hour	NS	6	0.088	0.092	0.074	0.081	0.091	0.093	0.088	0.085	0.088	0.089
	2nd daily max 1-hour	NS	6	0.107	0.112	0.09	0.102	0.112	0.114	0.107	0.11	0.114	0.108
PM <sub>10</sub>	90th percentile	Down	7	64	57.143	49	58.286	50.714	54.429	42.429	49.286	46.357	43.714
	weighted annual mean	Down	7	36.043	32.086	30.129	30.543	30.4	31.3	27.914	28.886	28.236	26.671
SO <sub>2</sub>	arithmetic mean	Down	4	0.012	0.012	0.011	0.011	0.009	0.006	0.009	0.009	0.009	0.008
	2nd max 24-hour	Down	4	0.054	0.044	0.045	0.044	0.044	0.025	0.035	0.037	0.038	0.033

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>CLARKSVILLE-HOPKINSVILLE, TN-KY</b>												
SO <sub>2</sub>	arithmetic mean	NS	1	0.007	0.006	0.009	0.01	0.007	0.006	0.006	0.005	0.006
	2nd max 24-hour	Down	1	0.038	0.029	0.036	0.058	0.037	0.019	0.023	0.026	0.02
<b>CLEVELAND-LORAIN-ELYRIA, OH</b>												
CO	2nd max 8-hour	NS	3	5.3	5.433	5.5	4.267	6.767	6.033	5.867	4.667	4.5
O <sub>3</sub>	4th max 8-hour	NS	6	0.084	0.09	0.083	0.088	0.085	0.09	0.088	0.085	0.093
	2nd daily max 1-hour	NS	6	0.105	0.111	0.103	0.106	0.105	0.108	0.106	0.101	0.113
PM <sub>10</sub>	90th percentile	NS	10	54	57.3	48.2	50.9	52	53.4	44.5	46	48
	weighted annual mean	NS	10	32.09	33.17	29.25	27.97	32.31	31.09	29.24	28.72	30.04
SO <sub>2</sub>	arithmetic mean	Down	8	0.01	0.01	0.009	0.009	0.008	0.006	0.007	0.006	0.006
	2nd max 24-hour	NS	8	0.041	0.04	0.039	0.041	0.043	0.025	0.03	0.03	0.027
<b>COLORADO SPRINGS, CO</b>												
CO	2nd max 8-hour	Down	4	5.2	4.825	4.4	4.1	3.625	4.05	3.625	3.8	3.125
Pb	max quarterly mean	Down	1	0.027	0.026	0.016	0.015	0.016	0.012	0.007	0.007	0.012
NO <sub>2</sub>	arithmetic mean	NS	3	0.016	0.016	0.016	0.015	0.017	0.017	0.016	0.015	0.014
O <sub>3</sub>	4th max 8-hour	Down	1	0.06	0.065	0.059	0.055	0.055	0.056	0.059	0.054	0.054
	2nd daily max 1-hour	Down	1	0.073	0.081	0.068	0.064	0.066	0.07	0.072	0.063	0.063
PM <sub>10</sub>	90th percentile	Down	9	34.667	39.444	33	36.222	34	31	30.889	28.222	31
	weighted annual mean	Down	9	22.056	24.322	21.722	22.056	20.678	19	19.211	18.022	19.322
SO <sub>2</sub>	arithmetic mean	NS	3	0.003	0.003	0.004	0.003	0.004	0.004	0.003	0.003	0.003
	2nd max 24-hour	NS	3	0.011	0.011	0.013	0.011	0.018	0.015	0.01	0.007	0.009
<b>COLUMBIA, SC</b>												
CO	2nd max 8-hour	Down	1	5.8	6	6.3	5.6	4.7	4	3.4	2.9	3.7
Pb	max quarterly mean	Down	3	0.034	0.043	0.031	0.017	0.015	0.011	0.01	0.009	0.011
NO <sub>2</sub>	arithmetic mean	NS	1	0.013	0.009	0.011	0.013	0.011	0.013	0.013	0.011	0.014
O <sub>3</sub>	4th max 8-hour	NS	3	0.092	0.071	0.075	0.082	0.077	0.079	0.077	0.078	0.091
	2nd daily max 1-hour	NS	3	0.114	0.095	0.095	0.106	0.095	0.101	0.095	0.101	0.112
PM <sub>10</sub>	90th percentile	Down	7	57.143	55.571	51.286	50.571	46.786	43.286	42.714	46.143	52.429
	weighted annual mean	Down	7	21.571	19.157	20.071	18.7	17.5	14.014	15.829	16.343	17.286
SO <sub>2</sub>	arithmetic mean	NS	4	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
	2nd max 24-hour	NS	4	0.012	0.013	0.013	0.011	0.011	0.008	0.013	0.012	0.011
<b>COLUMBUS, GA-AL</b>												
O <sub>3</sub>	4th max 8-hour	up	2	0.073	0.07	0.079	0.077	0.076	0.085	0.082	0.081	0.09
	2nd daily max 1-hour	up	2	0.099	0.093	0.095	0.096	0.101	0.106	0.094	0.096	0.111
PM <sub>10</sub>	90th percentile	NS	1	46	40	43	37	44	44	33	39	45
	weighted annual mean	NS	1	28.6	26.9	25.8	25.4	26.5	28.2	22.2	26.4	30.1
<b>COLUMBUS, OH</b>												
CO	2nd max 8-hour	Down	3	4.133	4.767	4.933	3.933	4.467	3.833	2.467	2.433	3
O <sub>3</sub>	4th max 8-hour	NS	3	0.087	0.095	0.079	0.084	0.087	0.089	0.09	0.087	0.095
	2nd daily max 1-hour	NS	3	0.112	0.114	0.093	0.1	0.102	0.11	0.107	0.101	0.111
PM <sub>10</sub>	90th percentile	NS	2	57.5	52.5	43.5	48	46.5	51.5	36	52	51
	weighted annual mean	NS	2	30.7	29.65	26.15	26.65	26.65	29.15	24.45	27.35	30.25
SO <sub>2</sub>	arithmetic mean	Down	1	0.008	0.007	0.006	0.007	0.007	0.004	0.004	0.004	0.005
	2nd max 24-hour	Down	1	0.038	0.033	0.03	0.034	0.041	0.019	0.021	0.025	0.019
<b>CORPUS CHRISTI, TX</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.081	0.073	0.079	0.081	0.079	0.089	0.08	0.074	0.079
	2nd daily max 1-hour	NS	2	0.1	0.105	0.094	0.116	0.106	0.119	0.101	0.092	0.102
PM <sub>10</sub>	90th percentile	NS	1	43	45	41	51	48	47	37	50	50
	weighted annual mean	NS	1	29.8	32.9	29.9	30.6	31.3	31.1	25.1	30.5	30.5
SO <sub>2</sub>	arithmetic mean	NS	2	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	NS	2	0.013	0.027	0.018	0.024	0.012	0.016	0.013	0.012	0.017
<b>CUMBERLAND, MD-WV</b>												
SO <sub>2</sub>	arithmetic mean	NS	1	0.01	0.009	0.006	0.008	0.01	0.005	0.003	0.006	0.006
	2nd max 24-hour	NS	1	0.031	0.028	0.024	0.027	0.037	0.015	0.019	0.02	0.02
<b>DALLAS, TX</b>												
CO	2nd max 8-hour	NS	1	4.7	3.8	5.6	5.4	5.3	5.9	5.5	3.7	2.7
Pb	max quarterly mean	Down	9	0.215	0.163	0.178	0.187	0.114	0.129	0.08	0.07	0.075
NO <sub>2</sub>	arithmetic mean	up	1	0.012	0.013	0.015	0.014	0.016	0.019	0.019	0.018	0.016
O <sub>3</sub>	4th max 8-hour	NS	3	0.095	0.071	0.089	0.096	0.092	0.109	0.094	0.093	0.102
	2nd daily max 1-hour	NS	3	0.137	0.11	0.124	0.129	0.118	0.137	0.115	0.124	0.114
PM <sub>10</sub>	90th percentile	NS	5	43.2	39.4	39.8	41	41.2	48.8	49.4	41.4	41.4
	weighted annual mean	NS	5	27.88	26.12	26.26	26.88	26.24	30.3	30.12	26.3	26.3
<b>DANBURY, CT</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.105	0.101	0.082	0.096	0.093	0.093	0.081	0.105	0.092
	2nd daily max 1-hour	NS	1	0.149	0.136	0.121	0.14	0.125	0.134	0.11	0.138	0.115
PM <sub>10</sub>	90th percentile	Down	1	38	44	38	40	37	34	36	35	30
	weighted annual mean	Down	1	22.1	25.6	22.4	18.9	26	22	21.6	21.3	20.2
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.008	0.007	0.006	0.006	0.004	0.005	0.005	0.004
	2nd max 24-hour	Down	1	0.033	0.032	0.027	0.024	0.037	0.02	0.02	0.024	0.02

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>DAVENPORT-MOLINE-ROCK ISLAND, IA-IL</b>												
Pb	max quarterly mean	NS	1	0.031	0.013	0.019	0.016	0.015	0.013	0.019	0.015	0.014
O <sub>3</sub>	4th max 8-hour	NS	2	0.067	0.08	0.076	0.067	0.073	0.077	0.076	0.069	0.072
	2nd daily max 1-hour	NS	2	0.084	0.092	0.096	0.082	0.087	0.093	0.086	0.084	0.092
PM <sub>10</sub>	90th percentile	NS	5	59.4	55.4	59.8	50.6	59.333	63.867	58.2	57.2	58
	weighted annual mean	NS	5	35.26	34.48	33.68	30.76	36.867	38.553	33.92	33.84	33.32
SO <sub>2</sub>	arithmetic mean	Down	3	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003
	2nd max 24-hour	Down	3	0.022	0.02	0.019	0.018	0.023	0.017	0.016	0.015	0.013
<b>DAYTON-SPRINGFIELD, OH</b>												
CO	2nd max 8-hour	Down	2	3.2	3.45	3.6	3.55	3.35	2.95	2.35	2.95	2.8
O <sub>3</sub>	4th max 8-hour	NS	3	0.091	0.094	0.077	0.087	0.091	0.091	0.097	0.089	0.096
	2nd daily max 1-hour	NS	3	0.114	0.111	0.097	0.109	0.114	0.116	0.113	0.107	0.117
PM <sub>10</sub>	90th percentile	NS	3	47.667	43.333	41	45.667	39.667	43.667	38	41	42.333
	weighted annual mean	Down	3	26.033	28.2	25.233	24.6	24.433	25.633	22.733	24	24.633
SO <sub>2</sub>	arithmetic mean	NS	2	0.006	0.005	0.005	0.006	0.006	0.004	0.005	0.005	0.005
	2nd max 24-hour	NS	2	0.023	0.022	0.02	0.032	0.032	0.016	0.027	0.027	0.019
<b>DAYTON BEACH, FL</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.073	0.073	0.073	0.074	0.072	0.068	0.066	0.072	0.079
	2nd daily max 1-hour	NS	2	0.082	0.082	0.082	0.094	0.084	0.083	0.079	0.086	0.094
PM <sub>10</sub>	90th percentile	NS	1	29	29	29	32	28	34	28	28	30
	weighted annual mean	NS	1	19.2	19.2	19.2	19.6	20.2	20.9	20.2	19.3	20
<b>DECATUR, AL</b>												
O <sub>3</sub>	4th max 8-hour	up	1	0.069	0.069	0.069	0.08	0.077	0.083	0.086	0.076	0.085
	2nd daily max 1-hour	up	1	0.08	0.08	0.08	0.091	0.092	0.098	0.096	0.09	0.102
PM <sub>10</sub>	90th percentile	NS	1	42	54	41	44	35	40	32	41	41
	weighted annual mean	NS	1	24.7	28.1	24.9	24.8	22.4	25	20.5	22.5	24.5
<b>DECATUR, IL</b>												
Pb	max quarterly mean	NS	1	0.026	0.031	0.03	0.026	0.046	0.028	0.023	0.027	0.024
O <sub>3</sub>	4th max 8-hour	NS	1	0.076	0.087	0.078	0.065	0.079	0.08	0.094	0.077	0.078
	2nd daily max 1-hour	NS	1	0.088	0.095	0.086	0.077	0.095	0.097	0.1	0.087	0.094
PM <sub>10</sub>	90th percentile	NS	1	56	54	63	46	53	56	43	41	49
	weighted annual mean	NS	1	33.9	36.3	38.4	27.5	28.9	29.5	27.9	27.1	31.5
SO <sub>2</sub>	arithmetic mean	NS	1	0.008	0.007	0.005	0.006	0.007	0.005	0.005	0.006	0.005
	2nd max 24-hour	Down	1	0.06	0.039	0.023	0.025	0.03	0.024	0.022	0.021	0.02
<b>DENVER, CO</b>												
CO	2nd max 8-hour	Down	6	7.217	7	8.3	6.6	6.1	5.567	4.833	4.733	3.883
Pb	max quarterly mean	Down	4	0.072	0.07	0.071	0.074	0.048	0.048	0.037	0.024	0.045
NO <sub>2</sub>	arithmetic mean	NS	1	0.024	0.024	0.024	0.021	0.028	0.023	0.022	0.023	0.02
O <sub>3</sub>	4th max 8-hour	NS	6	0.072	0.072	0.068	0.067	0.069	0.067	0.07	0.067	0.069
	2nd daily max 1-hour	NS	6	0.101	0.094	0.092	0.087	0.09	0.09	0.092	0.086	0.1
PM <sub>10</sub>	90th percentile	Down	12	44.333	46.667	41.167	52.667	43.417	35.583	35.833	39.833	38.833
	weighted annual mean	NS	12	23.35	23.833	23.575	25.858	22.183	19.025	19.783	20.242	20.292
SO <sub>2</sub>	arithmetic mean	Down	2	0.006	0.006	0.007	0.006	0.006	0.004	0.005	0.005	0.004
	2nd max 24-hour	NS	2	0.02	0.026	0.038	0.025	0.025	0.016	0.02	0.021	0.018
<b>DES MOINES, IA</b>												
CO	2nd max 8-hour	NS	3	4.567	4.6	3.933	4.533	3.933	3.967	3.2	2.967	5.733
O <sub>3</sub>	4th max 8-hour	NS	1	0.037	0.033	0.071	0.041	0.052	0.071	0.064	0.063	0.056
	2nd daily max 1-hour	NS	1	0.06	0.048	0.079	0.08	0.073	0.081	0.082	0.075	0.065
PM <sub>10</sub>	90th percentile	NS	3	56	48	55.333	49	52.333	54	53	58.667	44.667
	weighted annual mean	NS	3	32.133	28.533	28	28.7	30.067	29.867	31.3	32.133	25.967
<b>DETROIT, MI</b>												
CO	2nd max 8-hour	Down	5	4.12	4.5	4.08	4.26	5.8	4.3	3.74	3.04	2.98
NO <sub>2</sub>	arithmetic mean	NS	2	0.021	0.02	0.02	0.021	0.022	0.02	0.021	0.02	0.021
O <sub>3</sub>	4th max 8-hour	NS	8	0.084	0.094	0.078	0.079	0.089	0.087	0.084	0.084	0.089
	2nd daily max 1-hour	NS	8	0.101	0.119	0.098	0.104	0.124	0.117	0.1	0.108	0.11
PM <sub>10</sub>	90th percentile	NS	6	64.167	59	46.5	55.333	60.667	58.833	49.5	45	53.52.167
	weighted annual mean	NS	6	36.333	33.467	28.15	32.8	37.65	34.517	30.933	27.733	29.467
SO <sub>2</sub>	arithmetic mean	Down	10	0.01	0.008	0.007	0.007	0.007	0.006	0.006	0.006	0.006
	2nd max 24-hour	NS	10	0.038	0.033	0.03	0.03	0.032	0.03	0.034	0.028	0.032
<b>DOTHON, AL</b>												
PM <sub>10</sub>	90th percentile	NS	1	64	44	43	52	47	46	36	45	41
	weighted annual mean	NS	1	30.6	27.6	24.7	26.4	27.8	28.1	22.3	24.9	27.3
<b>DULUTH-SUPERIOR, MN-WI</b>												
CO	2nd max 8-hour	NS	1	4.4	5.2	4	4.1	4.3	4.5	4.5	3.2	3.7
PM <sub>10</sub>	90th percentile	Down	6	40.833	37.167	33.667	31.5	30.5	32	31.5	30.833	30.333
	weighted annual mean	NS	6	22.433	23.133	20.417	18.9	18.733	18.817	19.117	18.483	19.65
<b>DUTCHES COUNTY, NY</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.101	0.101	0.092	0.099	0.087	0.093	0.089	0.089	0.093
	2nd daily max 1-hour	NS	1	0.126	0.126	0.112	0.139	0.117	0.115	0.109	0.111	0.108

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>EL PASO, TX</b>												
CO	2nd max 8-hour	Down	6	10.033	8.55	7.533	7.383	6.167	6.3	7.767	6.35	6.083
Pb	max quarterly mean	Down	4	0.267	0.274	0.187	0.179	0.117	0.135	0.203	0.092	0.112
NO <sub>2</sub>	arithmetic mean	NS	2	0.022	0.023	0.026	0.026	0.029	0.029	0.027	0.025	0.023
O <sub>3</sub>	4th max 8-hour	NS	4	0.076	0.068	0.073	0.068	0.081	0.078	0.078	0.07	0.077
	2nd daily max 1-hour	Down	4	0.121	0.119	0.119	0.108	0.127	0.117	0.118	0.113	0.11
PM <sub>10</sub>	90th percentile	NS	8	62.625	52.75	49.75	42.875	47.375	50.75	50.5	44.875	44.25
	weighted annual mean	NS	8	32.475	27.8	27.725	24.488	24.863	27.813	26.588	22.775	23.45
SO <sub>2</sub>	arithmetic mean	Down	2	0.011	0.009	0.012	0.009	0.007	0.008	0.008	0.007	0.006
	2nd max 24-hour	Down	2	0.057	0.047	0.055	0.056	0.028	0.044	0.035	0.026	0.022
<b>ELKHART-GOSHEN, IN</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.078	0.078	0.078	0.078	0.083	0.09	0.091	0.089	0.082
	2nd daily max 1-hour	NS	1	0.092	0.092	0.092	0.09	0.095	0.102	0.115	0.108	0.106
<b>ELMIRA, NY</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.079	0.091	0.066	0.08	0.074	0.076	0.072	0.073	0.082
	2nd daily max 1-hour	NS	1	0.096	0.101	0.085	0.09	0.084	0.088	0.088	0.081	0.094
SO <sub>2</sub>	arithmetic mean	Down	1	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.003
	2nd max 24-hour	Down	1	0.021	0.022	0.021	0.019	0.023	0.014	0.016	0.015	0.011
<b>ERIE, PA</b>												
NO <sub>2</sub>	arithmetic mean	NS	1	0.015	0.013	0.014	0.014	0.015	0.015	0.015	0.015	0.015
O <sub>3</sub>	4th max 8-hour	NS	1	0.084	0.091	0.084	0.081	0.09	0.088	0.083	0.087	0.098
	2nd daily max 1-hour	NS	1	0.1	0.113	0.098	0.107	0.101	0.105	0.1	0.103	0.122
SO <sub>2</sub>	arithmetic mean	NS	1	0.014	0.01	0.011	0.011	0.01	0.009	0.011	0.009	0.01
	2nd max 24-hour	NS	1	0.057	0.044	0.056	0.072	0.076	0.05	0.066	0.035	0.068
<b>EUGENE-SPRINGFIELD, OR</b>												
CO	2nd max 8-hour	NS	2	4.9	5.2	6.2	5.3	5.85	5.2	5.15	4.95	4.25
O <sub>3</sub>	4th max 8-hour	NS	2	0.068	0.069	0.074	0.054	0.069	0.062	0.086	0.058	0.076
	2nd daily max 1-hour	NS	2	0.09	0.091	0.095	0.077	0.086	0.082	0.108	0.072	0.098
PM <sub>10</sub>	90th percentile	Down	5	55.6	65	55.8	62.6	45.6	43.6	37.4	36.8	33.8
	weighted annual mean	Down	5	28.4	31.86	28.48	28.68	24.58	22.86	19.94	20.98	18.14
<b>EVANSVILLE-HENDERSON, IN-KY</b>												
CO	2nd max 8-hour	NS	2	3.7	3.45	3.6	4.35	4.05	3.2	3.05	3.65	3.05
NO <sub>2</sub>	arithmetic mean	Down	1	0.018	0.021	0.018	0.017	0.018	0.017	0.017	0.016	0.018
O <sub>3</sub>	4th max 8-hour	NS	6	0.086	0.087	0.076	0.082	0.092	0.092	0.089	0.088	0.088
	2nd daily max 1-hour	NS	6	0.103	0.104	0.091	0.103	0.108	0.112	0.105	0.103	0.109
PM <sub>10</sub>	90th percentile	NS	4	49.75	47	48.5	49.25	50.75	52	40	43.5	43.5
	weighted annual mean	Down	4	30.85	32.25	29.175	29.1	31.425	30.775	25.225	26.15	27.425
SO <sub>2</sub>	arithmetic mean	Down	5	0.014	0.013	0.012	0.012	0.012	0.009	0.01	0.01	0.011
	2nd max 24-hour	Down	5	0.066	0.064	0.071	0.055	0.049	0.043	0.052	0.052	0.046
<b>FAYETTEVILLE, NC</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.087	0.078	0.079	0.093	0.084	0.081	0.086	0.085	0.093
	2nd daily max 1-hour	NS	1	0.1	0.101	0.092	0.115	0.098	0.1	0.099	0.098	0.112
PM <sub>10</sub>	90th percentile	NS	1	50	45	39	41	40	35	39	41	39
	weighted annual mean	Down	1	31.4	26.9	26.2	27.3	25.1	23.3	25.3	24.8	26.5
<b>FAYETTEVILLE-SPRINGDALE-ROGERS, AR</b>												
PM <sub>10</sub>	90th percentile	NS	1	38	38	30	39	40	36	36	31	31
	weighted annual mean	NS	1	23.2	23.6	21.5	23.9	24.8	24.2	22.5	20.4	20.4
<b>FLAGSTAFF, AZ-UT</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.072	0.073	0.074	0.066	0.073	0.069	0.073	0.072	0.076
	2nd daily max 1-hour	NS	1	0.082	0.079	0.079	0.07	0.081	0.075	0.082	0.076	0.086
<b>FLINT, MI</b>												
O <sub>3</sub>	4th max 8-hour	up	2	0.076	0.08	0.07	0.07	0.075	0.081	0.087	0.083	0.089
	2nd daily max 1-hour	NS	2	0.095	0.099	0.091	0.105	0.089	0.094	0.106	0.097	0.109
SO <sub>2</sub>	2nd max 24-hour	NS	1	0.014	0.014	0.014	0.017	0.017	0.016	0.012	0.012	0.011
<b>FLORENCE, AL</b>												
PM <sub>10</sub>	90th percentile	NS	1	39	41	34	37	34	37	29	32	35
	weighted annual mean	NS	1	23.5	23.7	21.3	22.6	20.1	22	17.8	18.7	22.2
SO <sub>2</sub>	arithmetic mean	Down	1	0.005	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
	2nd max 24-hour	Down	1	0.027	0.025	0.019	0.022	0.022	0.018	0.019	0.02	0.019
<b>FORT COLLINS-LOVELAND, CO</b>												
CO	2nd max 8-hour	Down	1	7	9.8	6.9	6.6	6	5.2	5.1	5.2	4.1
O <sub>3</sub>	4th max 8-hour	NS	2	0.066	0.074	0.069	0.068	0.072	0.072	0.069	0.07	0.076
	2nd daily max 1-hour	NS	2	0.083	0.09	0.091	0.091	0.095	0.089	0.092	0.088	0.092
PM <sub>10</sub>	90th percentile	Down	1	39	50	35	36	34	41	33	24	26
	weighted annual mean	Down	1	23.4	25.1	22.6	22.4	21.6	22.3	20.4	15.7	16.2

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>FORT LAUDERDALE, FL</b>													
CO	2nd max 8-hour	Down	6	4.333	4.467	4.567	3.95	4.05	4.333	3.417	3.483	2.7	3.417
Pb	max quarterly mean	up	1	0.013	0.021	0.037	0.027	0.029	0.019	0.047	0.037	0.037	0.037
NO <sub>2</sub>	arithmetic mean	NS	1	0.009	0.009	0.009	0.01	0.009	0.011	0.01	0.01	0.01	0.011
O <sub>3</sub>	4th max 8-hour	NS	3	0.07	0.063	0.077	0.078	0.07	0.065	0.065	0.07	0.074	0.071
	2nd daily max 1-hour	NS	3	0.092	0.093	0.098	0.098	0.092	0.093	0.094	0.089	0.095	0.097
PM <sub>10</sub>	90th percentile	NS	5	26	26	26	28.2	22	22.2	24	23	29	21.4
	weighted annual mean	NS	5	17.78	17.78	17.78	18.34	16.22	15.34	16.26	16.28	18.68	15.84
SO <sub>2</sub>	arithmetic mean	up	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003
	2nd max 24-hour	up	1	0.006	0.006	0.006	0.011	0.013	0.008	0.008	0.011	0.017	0.015
<b>FORT MYERS-CAPE CORAL, FL</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.069	0.064	0.073	0.069	0.076	0.066	0.062	0.067	0.092	0.077
	2nd daily max 1-hour	NS	1	0.08	0.082	0.082	0.078	0.09	0.086	0.072	0.076	0.109	0.096
<b>FORT SMITH, AR-OK</b>													
PM <sub>10</sub>	90th percentile	NS	1	38	37	36	39	38	44	36	39	39	39
	weighted annual mean	NS	1	25.7	24.7	23.5	24.9	23.8	25.7	25.3	22.3	22.3	22.3
<b>FORT WAYNE, IN</b>													
O <sub>3</sub>	4th max 8-hour	NS	2	0.086	0.088	0.088	0.081	0.094	0.094	0.091	0.087	0.089	0.089
	2nd daily max 1-hour	NS	2	0.094	0.1	0.095	0.093	0.113	0.109	0.1	0.095	0.103	0.1
PM <sub>10</sub>	90th percentile	Down	1	53	44	38	36	43	44	28	28	39	31
	weighted annual mean	NS	1	27.2	27.2	22.7	22.9	23.5	23.9	17.2	19.6	23.7	17
<b>FORT WORTH-ARLINGTON, TX</b>													
CO	2nd max 8-hour	Down	1	3.6	3.4	3.8	3.5	2.7	3.3	2.8	2.8	2.5	2.6
NO <sub>2</sub>	arithmetic mean	NS	1	0.012	0.014	0.015	0.013	0.017	0.017	0.015	0.016	0.013	0.017
O <sub>3</sub>	4th max 8-hour	NS	2	0.099	0.108	0.084	0.093	0.101	0.104	0.094	0.092	0.099	0.102
	2nd daily max 1-hour	NS	2	0.135	0.145	0.122	0.113	0.133	0.141	0.129	0.123	0.126	0.145
PM <sub>10</sub>	90th percentile	NS	2	40	32	29	32	32.5	36	39	30	30	30
	weighted annual mean	NS	2	23.65	21.55	19.85	19.7	19.55	22.45	22.95	19.75	19.75	19.75
<b>FRESNO, CA</b>													
CO	2nd max 8-hour	Down	4	5.725	6.125	4.575	4.175	4.925	4.225	4.15	3.5	3.5	3.4
Pb	max quarterly mean	Down	1	0.065	0.037	0.035	0.025	0.02	0.015	0.008	0.011	0.013	0.013
NO <sub>2</sub>	arithmetic mean	Down	4	0.021	0.021	0.02	0.021	0.02	0.02	0.019	0.018	0.021	
O <sub>3</sub>	4th max 8-hour	NS	5	0.1	0.105	0.105	0.106	0.096	0.103	0.108	0.102	0.116	0.103
	2nd daily max 1-hour	NS	5	0.138	0.146	0.142	0.14	0.128	0.134	0.142	0.128	0.154	0.132
PM <sub>10</sub>	90th percentile	NS	5	106.6	100.4	72.6	85.6	63	80	59.2	76.8	61.8	81.2
	weighted annual mean	Down	5	54.96	53.76	45.22	43.18	40.24	41.04	35.14	40.38	34.42	42.38
<b>GADSDEN, AL</b>													
PM <sub>10</sub>	90th percentile	NS	2	54.5	56	52	57.5	46	42.5	35.5	47	50	46.5
	weighted annual mean	Down	2	32.8	32.2	31.35	33.2	30.3	29.6	23.4	26.25	30.95	28.25
<b>GALVESTON-TEXAS CITY, TX</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.09	0.091	0.067	0.114	0.088	0.14	0.08	0.097	0.095	0.108
	2nd daily max 1-hour	NS	1	0.15	0.15	0.097	0.176	0.125	0.198	0.107	0.175	0.146	0.172
PM <sub>10</sub>	90th percentile	NS	2	43.5	37.5	36.5	42	39	45.5	31	38	38	38
	weighted annual mean	NS	2	25.7	22.3	23.2	23.15	24.15	27.8	21.1	23.25	23.25	23.25
SO <sub>2</sub>	arithmetic mean	NS	1	0.007	0.007	0.005	0.005	0.006	0.006	0.014	0.006	0.004	0.007
	2nd max 24-hour	NS	1	0.063	0.05	0.039	0.056	0.052	0.089	0.067	0.053	0.039	0.04
<b>GARY, IN</b>													
CO	2nd max 8-hour	NS	2	4.15	4.05	4.35	4.7	5.55	3.85	3.25	3.65	3.85	3.8
Pb	max quarterly mean	NS	3	0.21	0.098	0.1	0.074	0.181	0.093	0.127	0.088	0.085	0.103
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.086	0.084	0.072	0.084	0.101	0.095	0.093	0.086	0.098
	2nd daily max 1-hour	NS	2	0.097	0.11	0.118	0.087	0.111	0.122	0.121	0.116	0.117	0.115
PM <sub>10</sub>	90th percentile	Down	7	50.571	43.429	42.286	38.571	41.571	40.857	32.286	31.429	35.429	29.857
	weighted annual mean	Down	7	32.443	28.329	25.4	22.886	25.414	24.129	20.4	20.993	22.571	20.486
SO <sub>2</sub>	arithmetic mean	Down	4	0.01	0.008	0.008	0.008	0.007	0.005	0.005	0.006	0.006	0.005
	2nd max 24-hour	Down	4	0.052	0.029	0.031	0.034	0.034	0.024	0.025	0.026	0.03	0.021
<b>GOLDSBORO, NC</b>													
PM <sub>10</sub>	90th percentile	NS	1	46	46	36	36	33	30	33	36	34	34
	weighted annual mean	Down	1	26.8	26.8	24.3	23.8	21	20.2	22.6	23.1	21.9	21.9
<b>GRAND JUNCTION, CO</b>													
CO	2nd max 8-hour	Down	1	6.7	6.7	6.7	6.1	6	5.4	5.8	5.4	5.3	4.7
PM <sub>10</sub>	90th percentile	Down	4	39.5	49.25	41.5	32.5	36	30.75	30.25	29.5	30.5	33
	weighted annual mean	Down	4	18.925	20.95	18.45	17.35	17.15	15.2	14.875	14.5	15.3	15.325
<b>GRAND RAPIDS-MUSKEGON-HOLLAND, MI</b>													
CO	2nd max 8-hour	NS	1	3.5	4	3.2	3.2	4	4.6	3.3	2.4	2.9	3.5
Pb	max quarterly mean	Down	3	0.023	0.016	0.019	0.014	0.013	0.01	0.012	0.012	0.012	0.012
O <sub>3</sub>	4th max 8-hour	NS	4	0.101	0.099	0.082	0.082	0.086	0.098	0.089	0.083	0.086	0.092
	2nd daily max 1-hour	NS	4	0.129	0.13	0.108	0.099	0.11	0.122	0.122	0.103	0.105	0.108
PM <sub>10</sub>	90th percentile	Down	2	55	40.5	54	39	46	40	34.5	32	37.5	36
	weighted annual mean	Down	2	30	25.65	34.8	21.7	26.85	20.95	20.25	18.65	21.25	18.9
SO <sub>2</sub>	arithmetic mean	Down	1	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.001
	2nd max 24-hour	Down	1	0.012	0.014	0.015	0.012	0.013	0.011	0.011	0.008	0.008	0.006

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>GREAT FALLS, MT</b>												
CO	2nd max 8-hour	NS	1	5.6	6.6	5.8	6.9	4.8	6.2	5.4	6.4	4.5
PM <sub>10</sub>	90th percentile	Down	1	39	44	40	40	34	30	35	32	32
	weighted annual mean	Down	1	23.7	21.1	21.4	21.4	20.8	17.9	19.1	20.3	20.3
<b>GREELEY, CO</b>												
CO	2nd max 8-hour	Down	1	7.1	7.8	7.5	5.8	5.2	5.3	7	4.8	4.4
O <sub>3</sub>	4th max 8-hour	NS	1	0.076	0.077	0.064	0.063	0.071	0.072	0.07	0.069	0.075
	2nd daily max 1-hour	NS	1	0.109	0.096	0.084	0.087	0.087	0.093	0.097	0.095	0.102
PM <sub>10</sub>	90th percentile	Down	1	43	51	43	39	37	34	30	30	29
	weighted annual mean	Down	1	24.7	25.9	25.4	22.6	23.1	19.9	17.7	17.8	16.5
<b>GREEN BAY, WI</b>												
SO <sub>2</sub>	arithmetic mean	Down	1	0.005	0.005	0.004	0.003	0.003	0.004	0.003	0.003	0.003
	2nd max 24-hour	Down	1	0.02	0.042	0.021	0.018	0.015	0.017	0.011	0.017	0.011
<b>GREENSBORO—WINSTON-SALEM—HIGH POINT, NC</b>												
CO	2nd max 8-hour	Down	1	6.8	6.6	5.7	5.5	6	6.2	4.3	4.7	5.4
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.016	0.015	0.017	0.017	0.016	0.016	0.017	0.016
O <sub>3</sub>	4th max 8-hour	up	2	0.091	0.084	0.08	0.091	0.087	0.088	0.088	0.088	0.096
	2nd daily max 1-hour	NS	2	0.112	0.102	0.1	0.118	0.108	0.11	0.114	0.11	0.119
PM <sub>10</sub>	90th percentile	Down	3	49.333	47.667	41	44.667	35.333	39	35.333	36.667	38.667
	weighted annual mean	Down	3	30.967	30.9	26.9	27.4	24.8	25.9	24.033	23.933	24.4
SO <sub>2</sub>	arithmetic mean	NS	1	0.008	0.007	0.006	0.006	0.007	0.007	0.007	0.007	0.006
	2nd max 24-hour	NS	1	0.023	0.027	0.019	0.022	0.021	0.025	0.026	0.023	0.02
<b>GREENVILLE, NC</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.082	0.082	0.078	0.091	0.077	0.082	0.086	0.097	0.089
	2nd daily max 1-hour	up	1	0.091	0.091	0.095	0.108	0.086	0.098	0.097	0.122	0.109
<b>GREENVILLE-SPARTANBURG-ANDERSON, SC</b>												
Pb	max quarterly mean	Down	3	0.04	0.035	0.018	0.022	0.019	0.016	0.009	0.01	0.015
NO <sub>2</sub>	arithmetic mean	Down	1	0.019	0.019	0.019	0.018	0.018	0.017	0.016	0.017	0.017
O <sub>3</sub>	4th max 8-hour	up	4	0.075	0.079	0.079	0.087	0.082	0.087	0.085	0.087	0.098
	2nd daily max 1-hour	up	4	0.094	0.098	0.094	0.113	0.099	0.112	0.105	0.102	0.116
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.003	0.003	0.003	0.003	0.001	0.002	0.003	0.003
	2nd max 24-hour	NS	1	0.011	0.017	0.013	0.012	0.016	0.007	0.012	0.014	0.015
<b>HAMILTON-MIDDLETON, OH</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.099	0.094	0.071	0.091	0.091	0.092	0.093	0.09	0.091
	2nd daily max 1-hour	NS	2	0.122	0.111	0.097	0.121	0.113	0.127	0.111	0.111	0.114
PM <sub>10</sub>	90th percentile	NS	4	59.5	61.25	50.75	62.75	53.25	57.75	44.5	53.75	53.25
	weighted annual mean	NS	4	34.275	35.55	30.075	31.125	30.375	33.8	29.325	30.425	30.45
SO <sub>2</sub>	arithmetic mean	Down	2	0.01	0.009	0.007	0.008	0.008	0.005	0.007	0.007	0.006
	2nd max 24-hour	Down	2	0.037	0.04	0.033	0.035	0.038	0.019	0.025	0.034	0.021
<b>HARRISBURG-LEBANON-CARLISLE, PA</b>												
Pb	max quarterly mean	NS	1	0.039	0.039	0.039	0.041	0.041	0.041	0.04	0.039	0.036
NO <sub>2</sub>	arithmetic mean	NS	2	0.013	0.014	0.013	0.011	0.015	0.014	0.015	0.013	0.012
O <sub>3</sub>	4th max 8-hour	NS	3	0.091	0.096	0.077	0.094	0.089	0.086	0.08	0.089	0.092
	2nd daily max 1-hour	NS	3	0.11	0.109	0.093	0.113	0.115	0.105	0.097	0.11	0.112
PM <sub>10</sub>	90th percentile	NS	1	35	39	27	30	44	32	31	33	33
	weighted annual mean	NS	1	18.5	22	17.8	20.7	22.3	20.7	18.8	21.9	21.9
SO <sub>2</sub>	arithmetic mean	Down	2	0.005	0.006	0.005	0.006	0.007	0.005	0.005	0.005	0.004
	2nd max 24-hour	NS	2	0.021	0.021	0.022	0.021	0.035	0.017	0.021	0.022	0.017
<b>HARTFORD, CT</b>												
CO	2nd max 8-hour	Down	2	6.45	6.1	6.05	5.55	6.35	5.75	4.975	4.8	5.4
NO <sub>2</sub>	arithmetic mean	NS	1	0.019	0.02	0.017	0.018	0.02	0.017	0.016	0.018	0.02
O <sub>3</sub>	4th max 8-hour	Down	3	0.103	0.108	0.093	0.1	0.099	0.097	0.082	0.099	0.09
	2nd daily max 1-hour	NS	3	0.149	0.157	0.123	0.146	0.133	0.134	0.098	0.143	0.12
PM <sub>10</sub>	90th percentile	Down	6	34.667	38.167	33.667	30.833	34.667	28.5	30	33.167	31
	weighted annual mean	NS	6	19.9	23	19.917	17.783	20.017	16.417	17.383	18.45	17.983
SO <sub>2</sub>	arithmetic mean	Down	4	0.007	0.007	0.006	0.005	0.006	0.004	0.004	0.004	0.004
	2nd max 24-hour	Down	4	0.03	0.03	0.027	0.019	0.027	0.019	0.018	0.021	0.019
<b>HONOLULU, HI</b>												
CO	2nd max 8-hour	Down	4	1.95	1.775	1.875	2	1.85	1.7	1.575	1.525	1.45
O <sub>3</sub>	4th max 8-hour	NS	1	0.034	0.041	0.047	0.049	0.052	0.051	0.041	0.047	0.049
	2nd daily max 1-hour	NS	1	0.053	0.05	0.059	0.055	0.055	0.056	0.047	0.053	0.056
PM <sub>10</sub>	90th percentile	NS	3	21.667	22.333	21.333	21	23	21	22.667	19	21.667
	weighted annual mean	NS	3	10.167	10.533	10.567	11.167	12.167	10.5	11.467	11.633	12.2
SO <sub>2</sub>	arithmetic mean	NS	3	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.002	0.001
	2nd max 24-hour	NS	3	0.006	0.006	0.006	0.009	0.006	0.005	0.007	0.005	0.007
<b>HOUMA, LA</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.083	0.076	0.07	0.075	0.086	0.101	0.075	0.079	0.089
	2nd daily max 1-hour	NS	1	0.115	0.097	0.091	0.096	0.103	0.141	0.094	0.103	0.115

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>HOUSTON, TX</b>													
CO	2nd max 8-hour	Down	4	6.775	6.025	6.775	5.6	4.9	4.025	5.25	4.275	3.8	3.35
NO <sub>2</sub>	arithmetic mean	Down	4	0.023	0.022	0.022	0.019	0.021	0.021	0.02	0.021	0.019	0.02
O <sub>3</sub>	4th max 8-hour	NS	9	0.116	0.098	0.102	0.095	0.097	0.114	0.097	0.107	0.109	0.102
	2nd daily max 1-hour	NS	9	0.192	0.167	0.162	0.161	0.147	0.168	0.154	0.171	0.174	0.159
PM <sub>10</sub>	90th percentile	Down	5	50.2	48.2	48	50.4	50.2	48	39	47.8	47.8	47.8
	weighted annual mean	Down	5	31.4	31.4	30.22	30.36	30.96	29.54	26	29.42	29.42	29.42
SO <sub>2</sub>	arithmetic mean	Down	5	0.005	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.003
	2nd max 24-hour	Down	5	0.025	0.027	0.024	0.022	0.02	0.025	0.023	0.017	0.018	0.015
<b>HUNTINGTON-ASHLAND, WV-KY-OH</b>													
Pb	max quarterly mean	NS	1	0.048	0.028	0.033	0.022	0.03	0.036	0.049	0.023	0.023	0.023
O <sub>3</sub>	4th max 8-hour	NS	3	0.093	0.096	0.078	0.09	0.092	0.089	0.077	0.081	0.097	0.094
	2nd daily max 1-hour	NS	3	0.114	0.131	0.097	0.11	0.126	0.117	0.097	0.112	0.127	0.116
PM <sub>10</sub>	90th percentile	Down	5	53.8	50.4	46	52.2	51.6	48.2	39	45.2	44	47
	weighted annual mean	Down	5	33.82	32.44	29.18	28.46	30.68	29.86	26.46	28.4	26.48	27.9
SO <sub>2</sub>	arithmetic mean	Down	8	0.012	0.012	0.01	0.011	0.01	0.009	0.008	0.008	0.008	0.008
	2nd max 24-hour	Down	8	0.07	0.05	0.043	0.052	0.049	0.034	0.028	0.031	0.033	0.03
<b>HUNTSVILLE, AL</b>													
CO	2nd max 8-hour	NS	1	4.2	4.1	4.2	4	3.5	3.6	3	3.1	3.3	4.3
O <sub>3</sub>	4th max 8-hour	NS	1	0.079	0.082	0.087	0.087	0.075	0.08	0.081	0.086	0.092	0.093
	2nd daily max 1-hour	NS	1	0.087	0.106	0.114	0.112	0.107	0.102	0.096	0.096	0.118	0.106
PM <sub>10</sub>	90th percentile	Down	3	47.333	49.333	43	40	35.5	34.333	31.333	37.333	34.667	35.667
	weighted annual mean	Down	3	29.5	27.3	25.967	23.6	22.667	22.567	20.767	20.8	22.033	22.867
<b>INDIANAPOLIS, IN</b>													
CO	2nd max 8-hour	Down	2	3.95	5.15	3.5	4	3.45	3.85	2.75	3.15	2.65	2.4
Pb	max quarterly mean	Down	4	1.11	0.738	0.596	0.654	1.003	0.299	0.073	0.054	0.059	0.095
NO <sub>2</sub>	arithmetic mean	NS	1	0.018	0.018	0.018	0.018	0.019	0.02	0.018	0.015	0.019	0.018
O <sub>3</sub>	4th max 8-hour	up	6	0.085	0.086	0.082	0.083	0.093	0.094	0.096	0.088	0.094	0.094
	2nd daily max 1-hour	NS	6	0.102	0.1	0.094	0.098	0.11	0.111	0.116	0.104	0.113	0.107
PM <sub>10</sub>	90th percentile	Down	13	54.308	49.077	43	51.231	46.462	46.077	34.308	36.308	38.923	37
	weighted annual mean	Down	13	32.8	30.562	27.608	27.677	28.254	28.115	22.508	22.523	23.9	21.838
SO <sub>2</sub>	arithmetic mean	Down	6	0.009	0.008	0.007	0.008	0.007	0.005	0.005	0.005	0.005	0.005
	2nd max 24-hour	Down	6	0.033	0.03	0.028	0.037	0.038	0.021	0.024	0.023	0.021	0.02
<b>JACKSON, MS</b>													
CO	2nd max 8-hour	NS	1	4.3	4.3	4.3	6.2	5.1	4.4	4.8	3.8	3.7	5
O <sub>3</sub>	4th max 8-hour	up	2	0.08	0.072	0.071	0.073	0.073	0.076	0.077	0.077	0.084	0.083
	2nd daily max 1-hour	up	2	0.1	0.085	0.083	0.089	0.086	0.09	0.093	0.095	0.105	0.103
PM <sub>10</sub>	90th percentile	Down	1	44	44	43	38	32	34	34	36	32	32
	weighted annual mean	Down	1	25.7	25.7	27	23.3	20.9	22.8	21.5	24	19.9	19.9
SO <sub>2</sub>	arithmetic mean	NS	1	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	Down	1	0.013	0.013	0.013	0.01	0.008	0.007	0.008	0.007	0.008	0.007
<b>JACKSON, TN</b>													
PM <sub>10</sub>	90th percentile	NS	2	44	39	41	37	31.5	42.5	33.5	34	34	34
	weighted annual mean	Down	2	27.7	26.9	27.4	23.35	22.6	25.1	22.1	22.55	23.3	23.3
<b>JACKSONVILLE, FL</b>													
CO	2nd max 8-hour	Down	4	4.05	3.6	4.15	4.075	3.85	3.6	3.075	2.5	2.675	3.375
Pb	max quarterly mean	Down	2	0.038	0.025	0.024	0.048	0.02	0.028	0.022	0.017	0.018	0.018
NO <sub>2</sub>	arithmetic mean	NS	1	0.015	0.014	0.014	0.015	0.014	0.016	0.015	0.014	0.015	0.016
O <sub>3</sub>	4th max 8-hour	NS	2	0.081	0.072	0.079	0.081	0.074	0.074	0.075	0.08	0.082	0.079
	2nd daily max 1-hour	NS	2	0.11	0.089	0.102	0.11	0.099	0.112	0.091	0.101	0.101	0.099
PM <sub>10</sub>	90th percentile	NS	2	45	46.5	41.5	38.5	39.5	39	34.5	38.5	43	41.5
	weighted annual mean	NS	2	33.75	33.15	27	27.6	26.55	25.9	25.25	25.5	29	28.2
SO <sub>2</sub>	arithmetic mean	NS	6	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	2nd max 24-hour	Down	6	0.034	0.022	0.022	0.026	0.031	0.018	0.019	0.016	0.021	0.019
<b>JACKSONVILLE, NC</b>													
PM <sub>10</sub>	90th percentile	NS	1	39	39	35	35	28	29	32	32	37	37
	weighted annual mean	NS	1	23.9	23.9	22.9	22.9	20.4	19.8	21.9	20.2	22.1	22.1
<b>JAMESTOWN, NY</b>													
O <sub>3</sub>	4th max 8-hour	up	1	0.076	0.076	0.083	0.081	0.08	0.089	0.081	0.087	0.095	0.087
	2nd daily max 1-hour	NS	1	0.098	0.098	0.098	0.104	0.094	0.104	0.097	0.105	0.111	0.101
PM <sub>10</sub>	90th percentile	NS	2	38.5	38.5	29	31.5	32.5	30	27.5	33.5	37	35.5
	weighted annual mean	NS	2	20.5	20.5	17.75	16.15	15.8	16.4	16.6	16.85	18.7	17.3
SO <sub>2</sub>	arithmetic mean	Down	2	0.01	0.01	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.006
	2nd max 24-hour	Down	2	0.047	0.039	0.039	0.041	0.053	0.039	0.033	0.029	0.026	0.03
<b>JANESVILLE-BELOIT, WI</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.076	0.076	0.076	0.063	0.076	0.083	0.082	0.075	0.077	0.08
	2nd daily max 1-hour	NS	1	0.091	0.091	0.091	0.083	0.092	0.095	0.101	0.088	0.087	0.095

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>JERSEY CITY, NJ</b>												
CO	2nd max 8-hour	Down	2	8.45	8.6	7.85	6.6	8.3	7.15	5.8	5.5	4.85
NO <sub>2</sub>	arithmetic mean	Down	1	0.03	0.028	0.028	0.027	0.026	0.026	0.027	0.026	0.027
O <sub>3</sub>	4th max 8-hour	NS	1	0.106	0.115	0.092	0.103	0.095	0.104	0.087	0.105	0.089
	2nd daily max 1-hour	NS	1	0.175	0.136	0.112	0.131	0.118	0.125	0.12	0.119	0.118
PM <sub>10</sub>	90th percentile	Down	2	51.5	55	44.5	46.5	56.5	42	43	42.5	36
	weighted annual mean	Down	2	31.2	32.35	26.8	29.05	34	26.5	28.35	26.75	22.85
SO <sub>2</sub>	arithmetic mean	Down	2	0.013	0.012	0.01	0.009	0.009	0.007	0.008	0.008	0.007
	2nd max 24-hour	Down	2	0.043	0.035	0.041	0.03	0.036	0.026	0.027	0.025	0.022
<b>JOHNSON CITY-KINGSPORT-BRISTOL, TN-VA</b>												
CO	2nd max 8-hour	NS	1	3.4	3.3	3	6.5	3.4	3	3	3.5	3.4
NO <sub>2</sub>	arithmetic mean	Down	1	0.019	0.019	0.018	0.017	0.017	0.018	0.018	0.018	0.017
O <sub>3</sub>	4th max 8-hour	NS	1	0.1	0.078	0.082	0.088	0.083	0.091	0.083	0.082	0.096
	2nd daily max 1-hour	NS	1	0.117	0.115	0.103	0.125	0.103	0.114	0.099	0.111	0.115
PM <sub>10</sub>	90th percentile	Down	1	44	48	38	46	38	40	37	37	30
	weighted annual mean	Down	1	29.3	30.5	24.9	25.2	25	24.7	22.7	20.8	20.7
SO <sub>2</sub>	arithmetic mean	NS	3	0.009	0.009	0.009	0.008	0.009	0.008	0.009	0.009	0.009
	2nd max 24-hour	NS	3	0.044	0.044	0.039	0.042	0.045	0.039	0.044	0.05	0.043
<b>JOHNSTOWN, PA</b>												
CO	2nd max 8-hour	Down	1	3.7	4.8	4.4	4.2	4.1	3.5	4.8	2.7	3.1
NO <sub>2</sub>	arithmetic mean	Down	1	0.018	0.019	0.018	0.017	0.018	0.015	0.018	0.016	0.015
O <sub>3</sub>	4th max 8-hour	NS	1	0.08	0.096	0.074	0.083	0.083	0.09	0.083	0.092	0.098
	2nd daily max 1-hour	NS	1	0.103	0.113	0.089	0.099	0.094	0.101	0.098	0.104	0.124
SO <sub>2</sub>	arithmetic mean	Down	1	0.014	0.015	0.013	0.015	0.014	0.012	0.011	0.009	0.008
	2nd max 24-hour	Down	1	0.046	0.043	0.052	0.049	0.08	0.042	0.034	0.03	0.027
<b>JONESBORO, AR</b>												
PM <sub>10</sub>	90th percentile	NS	1	47	47	41	46	50	50	42	40	40
	weighted annual mean	Down	1	26.8	26.7	25.3	25.2	28	27.6	25.6	23.7	23.7
<b>KALAMAZOO-BATTLE CREEK, MI</b>												
PM <sub>10</sub>	90th percentile	NS	1	58	56	42	39	44	50	33	38	47
	weighted annual mean	Down	1	28.1	29.3	27.1	24	25.9	26	22	22.6	26.7
<b>KANSAS CITY, MO-KS</b>												
CO	2nd max 8-hour	NS	3	4.433	4	3.9	4.167	4.333	3.333	3.2	3.233	3.7
Pb	max quarterly mean	NS	5	0.03	0.027	0.023	0.02	0.017	0.018	0.028	0.1	0.1
NO <sub>2</sub>	arithmetic mean	NS	3	0.011	0.01	0.01	0.009	0.01	0.01	0.012	0.01	0.012
O <sub>3</sub>	4th max 8-hour	up	6	0.073	0.079	0.075	0.074	0.079	0.09	0.08	0.086	0.087
	2nd daily max 1-hour	up	6	0.097	0.1	0.094	0.097	0.097	0.119	0.101	0.107	0.117
PM <sub>10</sub>	90th percentile	NS	7	51	51.286	47.143	48.143	46.714	43.714	56.429	39.714	44.143
	weighted annual mean	NS	7	31.343	31.614	30.186	30.186	29.886	24.429	33	26.143	27.114
SO <sub>2</sub>	arithmetic mean	NS	5	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.003
	2nd max 24-hour	NS	5	0.022	0.017	0.016	0.02	0.025	0.018	0.024	0.013	0.01
<b>KENOSHA, WI</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.084	0.108	0.085	0.085	0.088	0.103	0.084	0.087	0.09
	2nd daily max 1-hour	NS	2	0.106	0.135	0.112	0.114	0.119	0.119	0.13	0.111	0.121
<b>KNOXVILLE, TN</b>												
CO	2nd max 8-hour	Down	1	5.1	4.5	4.5	4.6	4.3	4.1	3.3	4.8	3.9
O <sub>3</sub>	4th max 8-hour	up	5	0.092	0.083	0.081	0.09	0.088	0.094	0.091	0.093	0.104
	2nd daily max 1-hour	up	5	0.11	0.101	0.096	0.11	0.109	0.116	0.108	0.113	0.124
PM <sub>10</sub>	90th percentile	Down	8	52.5	52.25	46.75	48.375	48.75	48.75	48.75	44	41.25
	weighted annual mean	Down	8	31.963	34.225	30.45	30.15	31.725	31.188	30.513	26.438	26.075
SO <sub>2</sub>	arithmetic mean	NS	3	0.006	0.006	0.006	0.006	0.006	0.007	0.006	0.006	0.005
	2nd max 24-hour	NS	3	0.03	0.034	0.034	0.037	0.034	0.034	0.037	0.033	0.028
<b>LAKE CHARLES, LA</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.085	0.087	0.073	0.077	0.075	0.084	0.077	0.085	0.09
	2nd daily max 1-hour	NS	1	0.11	0.121	0.105	0.103	0.095	0.113	0.092	0.114	0.123
<b>LAKELAND-WINTER HAVEN, FL</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.072	0.072	0.072	0.082	0.072	0.073	0.07	0.078	0.087
	2nd daily max 1-hour	NS	2	0.095	0.095	0.095	0.103	0.088	0.089	0.089	0.101	0.104
SO <sub>2</sub>	arithmetic mean	NS	2	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.006
	2nd max 24-hour	NS	2	0.018	0.015	0.015	0.019	0.016	0.013	0.019	0.016	0.022
<b>LANCASTER, PA</b>												
CO	2nd max 8-hour	NS	1	3.4	2.6	2.6	3	3.8	2.4	2.6	3.3	1.9
Pb	max quarterly mean	NS	1	0.058	0.043	0.038	0.038	0.042	0.04	0.041	0.041	0.04
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.018	0.015	0.015	0.019	0.016	0.017	0.016	0.015
O <sub>3</sub>	4th max 8-hour	NS	1	0.087	0.099	0.086	0.095	0.093	0.102	0.085	0.102	0.101
	2nd daily max 1-hour	NS	1	0.101	0.119	0.106	0.118	0.111	0.124	0.101	0.133	0.119
PM <sub>10</sub>	90th percentile	NS	1	52	45	41	54	61	55	46	50	50
	weighted annual mean	up	1	30.6	29.6	27	30.6	37.5	33.1	30.9	33.6	33.6
SO <sub>2</sub>	arithmetic mean	NS	1	0.006	0.006	0.006	0.007	0.006	0.006	0.005	0.007	0.006
	2nd max 24-hour	NS	1	0.028	0.023	0.023	0.026	0.03	0.018	0.021	0.023	0.02

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>LANSING-EAST LANSING, MI</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.083	0.08	0.079	0.079	0.082	0.076	0.078	0.08
	2nd daily max 1-hour	NS	2	0.095	0.11	0.091	0.096	0.093	0.096	0.087	0.088	0.1
<b>LAS CRUCES, NM</b>												
CO	2nd max 8-hour	Down	1	6.3	6.5	4.9	8.7	5	4.4	4.3	4.8	4.2
Pb	max quarterly mean	Down	2	0.167	0.147	0.126	0.117	0.054	0.086	0.071	0.075	0.075
O <sub>3</sub>	4th max 8-hour	NS	3	0.07	0.071	0.07	0.073	0.074	0.074	0.075	0.067	0.072
	2nd daily max 1-hour	NS	3	0.098	0.096	0.099	0.107	0.104	0.105	0.104	0.09	0.1
PM <sub>10</sub>	90th percentile	NS	3	60	52	56.667	47	55	55.333	50.333	43.333	42
	weighted annual mean	NS	3	35.233	31.167	31.467	29.767	32.6	34.267	33.3	26.8	26.767
SO <sub>2</sub>	arithmetic mean	Down	2	0.011	0.01	0.009	0.006	0.004	0.004	0.004	0.003	0.003
	2nd max 24-hour	Down	2	0.056	0.055	0.052	0.055	0.023	0.021	0.03	0.014	0.012
<b>LAS VEGAS, NV-AZ</b>												
CO	2nd max 8-hour	Down	1	7.7	6.9	6.1	7.2	6.9	6.4	6.6	5.5	6.2
O <sub>3</sub>	4th max 8-hour	NS	3	0.073	0.065	0.076	0.075	0.077	0.073	0.08	0.074	0.077
	2nd daily max 1-hour	Down	3	0.101	0.09	0.093	0.096	0.091	0.088	0.094	0.088	0.087
PM <sub>10</sub>	90th percentile	NS	1	127	88	76	75	67	77	82	90	84
	weighted annual mean	NS	1	69	58.8	48.3	43.1	47.4	46.7	52.5	59.7	52.4
<b>LAWRENCE, MA-NH</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.073	0.086	0.074	0.076	0.082	0.069	0.079	0.078	0.076
	2nd daily max 1-hour	NS	1	0.091	0.119	0.086	0.1	0.101	0.081	0.092	0.097	0.096
PM <sub>10</sub>	90th percentile	NS	1	32	30	32	36	32	24	22	25	28
	weighted annual mean	Down	1	20.6	18.3	19.1	18.3	15.9	13.4	14.3	14.8	15.2
SO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.007	0.008	0.008	0.006	0.006	0.005	0.005	0.006
	2nd max 24-hour	Down	2	0.029	0.026	0.027	0.026	0.027	0.025	0.019	0.02	0.021
<b>LAWTON, OK</b>												
PM <sub>10</sub>	90th percentile	NS	1	51	43	41	35	43	44	44	48	48
	weighted annual mean	NS	1	29.9	27.1	25.5	27	27.7	25.3	27.8	26.2	26.2
<b>LEWISTON-AUBURN, ME</b>												
PM <sub>10</sub>	90th percentile	Down	1	41	50	43	49	35	37	31	35	31
	weighted annual mean	Down	1	24.7	28.5	24	24.3	20.2	19.8	20	20.6	18.2
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.006	0.005	0.007	0.006	0.004	0.004	0.004	0.004
	2nd max 24-hour	Down	1	0.027	0.023	0.02	0.025	0.025	0.02	0.018	0.017	0.019
<b>LEXINGTON, KY</b>												
CO	2nd max 8-hour	NS	1	3.7	4.9	3.8	6.5	4.2	3	3.1	5.2	5.2
NO <sub>2</sub>	arithmetic mean	Down	1	0.017	0.016	0.016	0.017	0.016	0.017	0.014	0.014	0.011
O <sub>3</sub>	4th max 8-hour	NS	3	0.078	0.074	0.065	0.079	0.088	0.085	0.079	0.079	0.087
	2nd daily max 1-hour	up	3	0.097	0.088	0.08	0.099	0.104	0.103	0.088	0.096	0.105
PM <sub>10</sub>	90th percentile	Down	3	48.333	46.333	40	42	45.667	40.333	39	37.333	39.333
	weighted annual mean	Down	3	29.4	29.133	24.9	24.033	27.933	24.7	24.033	22.433	23.333
SO <sub>2</sub>	arithmetic mean	NS	1	0.006	0.008	0.007	0.007	0.008	0.006	0.006	0.006	0.008
	2nd max 24-hour	NS	1	0.02	0.025	0.03	0.026	0.037	0.016	0.02	0.016	0.023
<b>LIMA, OH</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.084	0.09	0.082	0.09	0.089	0.092	0.092	0.083	0.089
	2nd daily max 1-hour	NS	1	0.096	0.102	0.1	0.099	0.102	0.106	0.11	0.091	0.102
SO <sub>2</sub>	arithmetic mean	Down	1	0.005	0.006	0.004	0.005	0.004	0.003	0.003	0.003	0.003
	2nd max 24-hour	Down	1	0.026	0.021	0.02	0.023	0.036	0.015	0.015	0.016	0.017
<b>LINCOLN, NE</b>												
CO	2nd max 8-hour	NS	2	6.15	7.4	4.45	4.25	3.95	4.85	3.35	5	4.25
O <sub>3</sub>	4th max 8-hour	NS	1	0.057	0.06	0.067	0.049	0.062	0.06	0.054	0.054	0.058
	2nd daily max 1-hour	NS	1	0.067	0.067	0.074	0.057	0.075	0.07	0.06	0.061	0.068
PM <sub>10</sub>	90th percentile	NS	2	49	52.5	42	38	45.5	44.5	44	38.5	40
	weighted annual mean	NS	2	28.65	29.85	25.2	26.05	27.8	24.75	28.15	24.25	26.1
<b>LITTLE ROCK-NORTH LITTLE ROCK, AR</b>												
NO <sub>2</sub>	arithmetic mean	NS	1	0.009	0.009	0.012	0.009	0.011	0.011	0.011	0.01	0.011
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.078	0.076	0.076	0.076	0.086	0.077	0.077	0.083
	2nd daily max 1-hour	NS	2	0.099	0.098	0.089	0.096	0.09	0.106	0.096	0.099	0.097
PM <sub>10</sub>	90th percentile	NS	4	48.75	42.5	47.25	44.25	46.5	50	40.5	42.25	42.25
	weighted annual mean	Down	4	28.5	25.1	27.9	26.925	27.225	29.225	26.2	24.525	24.525
SO <sub>2</sub>	arithmetic mean	Down	1	0.003	0.003	0.005	0.006	0.003	0.002	0.002	0.002	0.002
	2nd max 24-hour	Down	1	0.014	0.012	0.012	0.017	0.009	0.008	0.009	0.006	0.005
<b>LONGVIEW-MARSHALL, TX</b>												
O <sub>3</sub>	4th max 8-hour	up	1	0.088	0.081	0.079	0.093	0.081	0.102	0.082	0.091	0.104
	2nd daily max 1-hour	NS	1	0.13	0.11	0.101	0.114	0.104	0.145	0.106	0.124	0.129
<b>LOS ANGELES-LONG BEACH, CA</b>												
CO	2nd max 8-hour	Down	13	8.962	8.8	7.815	6.808	8.015	7.469	6.846	6.562	6.069
Pb	max quarterly mean	Down	6	0.093	0.102	0.079	0.064	0.061	0.049	0.046	0.052	0.038
NO <sub>2</sub>	arithmetic mean	Down	13	0.041	0.041	0.038	0.036	0.039	0.038	0.035	0.033	0.035
O <sub>3</sub>	4th max 8-hour	Down	14	0.119	0.125	0.129	0.117	0.113	0.105	0.101	0.091	0.098
	2nd daily max 1-hour	Down	14	0.185	0.194	0.2	0.174	0.169	0.152	0.142	0.124	0.147
PM <sub>10</sub>	90th percentile	Down	9	78	79.556	64.111	65.333	59.111	63.556	60.667	56.556	54.778
	weighted annual mean	Down	9	48.667	52.522	41.078	40.467	39.144	39.156	37.967	38.556	33.411
SO <sub>2</sub>	arithmetic mean	Down	4	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003
	2nd max 24-hour	NS	4	0.012	0.013	0.015	0.011	0.008	0.008	0.008	0.007	0.009

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>LOUISVILLE, KY-IN</b>												
CO	2nd max 8-hour	Down	4	5.85	5.85	5.15	5.35	5.875	4.4	3.9	4.95	4.375
NO <sub>2</sub>	arithmetic mean	NS	1	0.012	0.012	0.013	0.014	0.012	0.013	0.013	0.012	0.014
O <sub>3</sub>	4th max 8-hour	up	5	0.079	0.086	0.071	0.091	0.092	0.09	0.087	0.089	0.096
	2nd daily max 1-hour	NS	5	0.107	0.108	0.091	0.123	0.116	0.116	0.109	0.12	0.121
PM <sub>10</sub>	90th percentile	Down	6	54.667	49.833	47.5	50.833	47	46.167	43.667	48.167	41.833
	weighted annual mean	Down	6	32.767	32.25	30.3	29.117	30.283	28.65	26.483	28.717	26.333
SO <sub>2</sub>	arithmetic mean	Down	4	0.01	0.01	0.009	0.01	0.01	0.008	0.007	0.007	0.007
	2nd max 24-hour	Down	4	0.041	0.037	0.034	0.035	0.04	0.028	0.031	0.031	0.033
<b>LOWELL, MA-NH</b>												
CO	2nd max 8-hour	Down	1	7.3	5.8	5.9	5.1	6.5	7.8	4.5	3.6	3.4
<b>LUBBOCK, TX</b>												
PM <sub>10</sub>	90th percentile	Down	1	36	39	34	30	33	34	34	27	27
	weighted annual mean	Down	1	23.8	25.3	22.1	19.9	23	20.8	21.7	16.6	16.6
<b>LYNCHBURG, VA</b>												
PM <sub>10</sub>	90th percentile	NS	1	43	41	39	44	33	49	36	37	33
	weighted annual mean	Down	1	24.3	27.5	23.5	25.5	23.2	23.8	22.5	23	20.8
<b>MADISON, WI</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.079	0.079	0.079	0.066	0.071	0.08	0.079	0.079	0.076
	2nd daily max 1-hour	NS	1	0.094	0.094	0.094	0.079	0.082	0.1	0.094	0.088	0.089
PM <sub>10</sub>	90th percentile	NS	2	37	38	35	36.5	32.5	42	30.5	33.5	36.5
	weighted annual mean	NS	2	22.95	23.75	22	20.15	21.3	22.15	20.05	20.15	23.35
<b>MANCHESTER, NH</b>												
PM <sub>10</sub>	90th percentile	Down	2	33.5	37.5	31	36.5	33.5	26	28	28.5	26.5
	weighted annual mean	Down	2	19.55	19.9	18.2	17.95	15.25	14.25	16	18.55	15.05
<b>MANSFIELD, OH</b>												
PM <sub>10</sub>	90th percentile	NS	1	42	40	39	44	49	42	40	39	41
	weighted annual mean	Down	1	27.1	26.7	26.4	27.7	29.2	24.7	24.3	23.3	23.8
<b>MEDFORD-ASHLAND, OR</b>												
CO	2nd max 8-hour	Down	1	8.2	8.1	6.4	6.9	6.2	5.3	6.4	5.7	5.2
O <sub>3</sub>	4th max 8-hour	NS	1	0.081	0.081	0.081	0.066	0.068	0.071	0.075	0.063	0.085
	2nd daily max 1-hour	NS	1	0.112	0.112	0.082	0.087	0.091	0.101	0.074	0.117	0.077
PM <sub>10</sub>	90th percentile	Down	4	66.75	62.25	51.75	52.5	46.75	36	35	36.25	32.5
	weighted annual mean	Down	4	35.35	34.35	30.675	29.725	27.95	21.75	20.975	22.775	20.925
<b>MELBOURNE-TITUSVILLE-PALM BAY, FL</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.074	0.068	0.075	0.073	0.073	0.066	0.068	0.073	0.081
	2nd daily max 1-hour	NS	2	0.084	0.085	0.084	0.087	0.088	0.08	0.087	0.086	0.092
PM <sub>10</sub>	90th percentile	NS	2	29.5	29.5	29.5	27	23.5	23	25	27.5	32
	weighted annual mean	NS	2	16.55	16.55	16.55	17.65	16.5	15.15	16.85	17.6	18.2
<b>MEMPHIS, TN-AR-MS</b>												
CO	2nd max 8-hour	Down	5	7.46	6.14	7.66	7.64	7.28	5.96	5.28	4.96	4.86
Pb	max quarterly mean	NS	4	1.041	0.785	1.003	1.045	1.033	0.646	1.044	0.593	0.933
NO <sub>2</sub>	arithmetic mean	up	1	0.023	0.024	0.026	0.026	0.027	0.027	0.024	0.028	0.029
O <sub>3</sub>	4th max 8-hour	up	4	0.088	0.085	0.08	0.084	0.085	0.095	0.094	0.087	0.093
	2nd daily max 1-hour	up	4	0.113	0.108	0.102	0.108	0.108	0.125	0.124	0.118	0.116
PM <sub>10</sub>	90th percentile	Down	2	50	45	43.5	49	43	44.5	40	43.5	40.5
	weighted annual mean	Down	2	30.6	26.95	28.4	28.5	26.65	27.45	27.45	26	24.65
SO <sub>2</sub>	arithmetic mean	Down	1	0.009	0.008	0.009	0.007	0.005	0.005	0.004	0.004	0.004
	2nd max 24-hour	Down	1	0.027	0.024	0.03	0.031	0.025	0.019	0.012	0.012	0.012
<b>MERCED, CA</b>												
NO <sub>2</sub>	arithmetic mean	Down	1	0.015	0.015	0.015	0.015	0.013	0.012	0.012	0.013	0.011
O <sub>3</sub>	4th max 8-hour	NS	1	0.102	0.102	0.102	0.096	0.097	0.107	0.102	0.074	0.112
	2nd daily max 1-hour	NS	1	0.12	0.12	0.12	0.12	0.119	0.13	0.124	0.09	0.14
<b>MIAMI, FL</b>												
CO	2nd max 8-hour	Down	2	5.95	7.2	6.2	5.25	4.4	4.9	4.45	3.8	3.1
NO <sub>2</sub>	arithmetic mean	NS	2	0.011	0.011	0.011	0.012	0.01	0.011	0.011	0.012	0.011
O <sub>3</sub>	4th max 8-hour	NS	4	0.067	0.06	0.071	0.075	0.07	0.07	0.069	0.072	0.08
	2nd daily max 1-hour	NS	4	0.098	0.091	0.095	0.101	0.093	0.094	0.092	0.098	0.099
PM <sub>10</sub>	90th percentile	Down	4	38	38	39.5	36.25	34.75	33.75	38.25	30.25	35.25
	weighted annual mean	Down	4	27	25.725	25.95	26.85	25.075	25.05	25.7	23	25.75
SO <sub>2</sub>	arithmetic mean	NS	1	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001
	2nd max 24-hour	NS	1	0.003	0.003	0.005	0.004	0.004	0.004	0.005	0.004	0.003
<b>MIDDLESEX-SOMERSET-HUNTERDON, NJ</b>												
CO	2nd max 8-hour	Down	1	5.4	4.2	3.9	3.7	4.3	5.3	3.3	3.8	3
Pb	max quarterly mean	NS	1	0.302	1.148	1.215	0.333	0.123	0.067	0.061	0.079	0.08
O <sub>3</sub>	4th max 8-hour	NS	1	0.11	0.109	0.094	0.102	0.094	0.102	0.089	0.103	0.096
	2nd daily max 1-hour	NS	1	0.136	0.122	0.119	0.118	0.112	0.115	0.108	0.12	0.118
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.007	0.006	0.005	0.005	0.004	0.005	0.005	0.005
	2nd max 24-hour	Down	1	0.032	0.025	0.026	0.018	0.028	0.018	0.024	0.019	0.018

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>MILWAUKEE-WAUKESHA, WI</b>													
CO	2nd max 8-hour	Down	5	4.48	3.72	3.24	4.04	4.5	3.04	1.9	1.98	2.08	
Pb	max quarterly mean	Down	1	0.081	0.055	0.047	0.035	0.032	0.048	0.032	0.03	0.03	
NO <sub>2</sub>	arithmetic mean	Down	1	0.019	0.018	0.018	0.017	0.017	0.017	0.017	0.016	0.016	
O <sub>3</sub>	4th max 8-hour	NS	8	0.084	0.094	0.078	0.076	0.081	0.096	0.083	0.083	0.082	
	2nd daily max 1-hour	NS	8	0.113	0.136	0.096	0.097	0.117	0.114	0.105	0.117	0.109	
PM <sub>10</sub>	90th percentile	Down	4	57.25	48.75	41	44.5	42.25	49	37.5	38.25	41.25	
	weighted annual mean	Down	4	33.2	29.3	25.775	26.1	27.525	26.55	25	24.275	26.85	24.05
SO <sub>2</sub>	arithmetic mean	NS	1	0.006	0.005	0.004	0.003	0.004	0.004	0.004	0.004	0.004	
	2nd max 24-hour	NS	1	0.04	0.029	0.023	0.018	0.032	0.025	0.028	0.028	0.022	
<b>MINNEAPOLIS-ST. PAUL, MN-WI</b>													
CO	2nd max 8-hour	Down	3	6.533	7.167	5.867	5.233	6.4	5.967	5.133	4.5	4.933	
Pb	max quarterly mean	Down	4	0.588	0.246	0.197	0.093	0.052	0.181	0.092	0.072	0.05	
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.016	0.016	0.018	0.019	0.017	0.019	0.017	0.018	
O <sub>3</sub>	4th max 8-hour	NS	4	0.068	0.07	0.074	0.058	0.07	0.076	0.068	0.073	0.071	
	2nd daily max 1-hour	NS	4	0.087	0.081	0.086	0.074	0.08	0.101	0.086	0.085	0.089	
PM <sub>10</sub>	90th percentile	NS	7	43.429	42.286	37.286	34.571	35.286	39.571	35.857	34.286	39.429	
	weighted annual mean	NS	7	27.871	26.443	22.843	22.057	21.829	22.886	22.6	22.271	23.843	
SO <sub>2</sub>	arithmetic mean	Down	6	0.004	0.005	0.004	0.003	0.003	0.003	0.003	0.003	0.002	
	2nd max 24-hour	Down	6	0.025	0.027	0.025	0.02	0.017	0.015	0.016	0.015	0.013	
<b>MOBILE, AL</b>													
O <sub>3</sub>	4th max 8-hour	NS	2	0.081	0.054	0.075	0.071	0.071	0.077	0.077	0.076	0.088	
	2nd daily max 1-hour	NS	2	0.105	0.075	0.098	0.09	0.088	0.108	0.102	0.107	0.107	
PM <sub>10</sub>	90th percentile	Down	4	49.5	48.5	51.25	51.25	51	42.75	39.75	44.5	46.75	
	weighted annual mean	Down	4	30.65	31.85	33.7	32.4	31.4	28.8	24.6	26.35	29.975	
SO <sub>2</sub>	arithmetic mean	NS	1	0.008	0.009	0.01	0.01	0.011	0.009	0.009	0.008	0.009	
	2nd max 24-hour	NS	1	0.038	0.05	0.054	0.066	0.052	0.053	0.07	0.049	0.073	
<b>MODESTO, CA</b>													
CO	2nd max 8-hour	Down	2	7.3	6.75	5	4.65	5.1	4.2	4.3	3.7	4.3	
Pb	max quarterly mean	Down	1	0.036	0.036	0.019	0.018	0.019	0.012	0.01	0.011	0.011	
NO <sub>2</sub>	arithmetic mean	Down	2	0.023	0.023	0.021	0.02	0.02	0.019	0.019	0.019	0.02	
O <sub>3</sub>	4th max 8-hour	NS	2	0.096	0.091	0.089	0.093	0.09	0.099	0.096	0.086	0.103	
	2nd daily max 1-hour	NS	2	0.115	0.11	0.11	0.12	0.112	0.125	0.124	0.11	0.14	
PM <sub>10</sub>	90th percentile	Down	2	85	101	68.5	72	54	68	40.5	47.5	37.5	
	weighted annual mean	Down	2	43.85	48.4	39.45	40.15	37	34.3	28.35	29.6	22.55	
<b>MONMOUTH-OCEAN, NJ</b>													
CO	2nd max 8-hour	Down	2	5.7	5.45	4.65	5.3	4.9	3.75	4.4	3.65	3	
O <sub>3</sub>	4th max 8-hour	NS	2	0.098	0.101	0.09	0.099	0.092	0.115	0.095	0.104	0.099	
	2nd daily max 1-hour	NS	2	0.134	0.14	0.133	0.129	0.117	0.148	0.121	0.141	0.132	
<b>MONTGOMERY, AL</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.078	0.067	0.076	0.085	0.078	0.088	0.076	0.07	0.091	
	2nd daily max 1-hour	NS	1	0.097	0.088	0.095	0.113	0.101	0.102	0.102	0.087	0.116	
PM <sub>10</sub>	90th percentile	NS	1	41	44	39	34	36	43	37	40	38	
	weighted annual mean	NS	1	26.9	25.8	24.2	22.8	25	26.1	22.5	23.9	27.8	
<b>MYRTLE BEACH, SC</b>													
Pb	max quarterly mean	NS	1	0.013	0.013	0.011	0.007	0.005	0.007	0.003	0.006	0.01	
<b>NASHUA, NH</b>													
CO	2nd max 8-hour	Down	2	7.05	6.85	6.8	5.15	7.45	6.75	7.7	4.65	4.45	
NO <sub>2</sub>	arithmetic mean	NS	1	0.016	0.016	0.015	0.016	0.015	0.014	0.019	0.016	0.015	
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.089	0.084	0.085	0.081	0.083	0.083	0.088	0.073	
	2nd daily max 1-hour	NS	2	0.096	0.103	0.098	0.113	0.099	0.102	0.101	0.109	0.089	
PM <sub>10</sub>	90th percentile	Down	3	32	34	29	27.667	31	25	28.667	29	27.333	
	weighted annual mean	Down	3	17.7	19.067	16.867	16.033	14.133	13.467	15.733	17.267	15.667	
SO <sub>2</sub>	arithmetic mean	NS	3	0.007	0.005	0.006	0.006	0.006	0.005	0.005	0.006	0.005	
	2nd max 24-hour	Down	3	0.036	0.024	0.025	0.022	0.028	0.023	0.021	0.025	0.019	
<b>NASHVILLE, TN</b>													
CO	2nd max 8-hour	Down	3	5.933	5	5.533	6.4	5.433	4.833	3.867	4.733	4.367	
Pb	max quarterly mean	Down	5	1.257	1.064	0.989	0.887	0.933	1.784	0.574	0.633	0.74	
NO <sub>2</sub>	arithmetic mean	NS	1	0.012	0.01	0.014	0.012	0.02	0.014	0.012	0.012	0.019	
O <sub>3</sub>	4th max 8-hour	up	6	0.089	0.08	0.075	0.079	0.083	0.086	0.087	0.09	0.091	
	2nd daily max 1-hour	up	6	0.113	0.099	0.098	0.104	0.103	0.103	0.108	0.112	0.113	
PM <sub>10</sub>	90th percentile	Down	6	56.833	51.667	47.833	47.167	51	50	43.167	46.667	44.833	
	weighted annual mean	Down	6	36.367	34.75	30.55	30.95	30.217	30.733	28.383	28.183	28.067	
SO <sub>2</sub>	arithmetic mean	Down	2	0.013	0.012	0.008	0.01	0.007	0.005	0.006	0.006	0.004	
	2nd max 24-hour	NS	2	0.08	0.078	0.028	0.063	0.041	0.025	0.049	0.059	0.035	
<b>NASSAU-SUFFOLK, NY</b>													
CO	2nd max 8-hour	Down	1	7.2	6.6	5.6	5.6	5.4	5	4.9	4.7	4	
NO <sub>2</sub>	arithmetic mean	Down	1	0.028	0.029	0.026	0.026	0.028	0.025	0.026	0.025	0.022	
O <sub>3</sub>	4th max 8-hour	NS	2	0.1	0.1	0.09	0.097	0.09	0.109	0.089	0.102	0.093	
	2nd daily max 1-hour	NS	2	0.132	0.147	0.123	0.13	0.121	0.141	0.118	0.133	0.126	
PM <sub>10</sub>	90th percentile	Down	2	53.5	53.5	38	41.5	38.5	32.5	28.5	33.5	30	
	weighted annual mean	Down	2	26.85	26.85	22.25	23.05	22.65	19.1	18.05	20.25	18.4	
SO <sub>2</sub>	arithmetic mean	Down	2	0.009	0.009	0.008	0.008	0.007	0.005	0.007	0.006	0.007	
	2nd max 24-hour	Down	2	0.045	0.039	0.039	0.033	0.037	0.03	0.028	0.029	0.032	

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>NEW BEDFORD, MA</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.099	0.101	0.087	0.073	0.077	0.107	0.092	0.092	0.083
	2nd daily max 1-hour	NS	1	0.126	0.132	0.109	0.088	0.096	0.138	0.118	0.123	0.101
PM <sub>10</sub>	90th percentile	NS	1	34	35	29	24	37	21	27	29	25
	weighted annual mean	Down	1	23	20.4	17.4	16.8	19.1	14.3	16.1	17.8	16
<b>NEW HAVEN-MERIDEN, CT</b>												
NO <sub>2</sub>	arithmetic mean	NS	1	0.027	0.028	0.025	0.027	0.03	0.025	0.026	0.024	0.027
O <sub>3</sub>	4th max 8-hour	NS	2	0.1	0.116	0.084	0.094	0.088	0.105	0.085	0.099	0.088
	2nd daily max 1-hour	NS	2	0.129	0.161	0.115	0.137	0.137	0.144	0.113	0.136	0.124
PM <sub>10</sub>	90th percentile	Down	6	48.833	57.667	46	51.167	51.833	40.5	36.167	35.667	36.167
	weighted annual mean	Down	6	30.033	33.483	26.733	28.583	29.067	23.617	22.217	22.567	23.117
SO <sub>2</sub>	arithmetic mean	Down	2	0.01	0.01	0.009	0.008	0.008	0.006	0.006	0.005	0.005
	2nd max 24-hour	Down	2	0.045	0.055	0.042	0.038	0.049	0.031	0.027	0.028	0.028
<b>NEW LONDON-NORWICH, CT-RI</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.105	0.107	0.088	0.099	0.093	0.101	0.095	0.104	0.083
	2nd daily max 1-hour	NS	1	0.158	0.135	0.12	0.126	0.118	0.14	0.121	0.15	0.116
PM <sub>10</sub>	90th percentile	Down	2	34.5	40	32	30.5	38.5	28.5	30.5	28.5	27.5
	weighted annual mean	Down	2	20.65	23.55	19.75	18.25	22.1	17.2	18.8	18.3	17.35
SO <sub>2</sub>	arithmetic mean	Down	1	0.008	0.007	0.006	0.006	0.005	0.005	0.005	0.004	0.004
	2nd max 24-hour	Down	1	0.029	0.027	0.025	0.019	0.029	0.017	0.016	0.022	0.018
<b>NEW ORLEANS, LA</b>												
CO	2nd max 8-hour	Down	2	4.85	4.15	5.35	5.1	4.6	3.55	3.95	3.25	3.15
Pb	max quarterly mean	NS	1	0.049	0.049	0.049	0.073	0.12	0.411	0.093	0.053	0.114
NO <sub>2</sub>	arithmetic mean	NS	2	0.016	0.015	0.017	0.016	0.015	0.016	0.015	0.014	0.016
O <sub>3</sub>	4th max 8-hour	up	6	0.079	0.072	0.077	0.079	0.082	0.083	0.08	0.078	0.081
	2nd daily max 1-hour	NS	6	0.104	0.1	0.101	0.104	0.11	0.11	0.103	0.1	0.108
PM <sub>10</sub>	90th percentile	Down	1	44	48	39	42	40	37	31	36	36
	weighted annual mean	NS	1	27.2	26.3	26.6	24.7	25.3	24.3	22.3	25.2	25.2
SO <sub>2</sub>	arithmetic mean	NS	1	0.003	0.005	0.005	0.006	0.008	0.007	0.006	0.005	0.004
	2nd max 24-hour	NS	1	0.013	0.028	0.019	0.025	0.027	0.022	0.035	0.017	0.026
<b>NEW YORK, NY</b>												
CO	2nd max 8-hour	Down	5	7.1	6.7	6.1	5.26	5.94	6.52	4.56	3.64	3.72
Pb	max quarterly mean	NS	1	0.164	0.124	0.106	0.163	0.14	0.124	0.156	0.155	0.137
NO <sub>2</sub>	arithmetic mean	Down	2	0.043	0.043	0.037	0.04	0.042	0.039	0.039	0.038	0.038
O <sub>3</sub>	4th max 8-hour	NS	5	0.098	0.105	0.078	0.087	0.092	0.096	0.088	0.103	0.09
	2nd daily max 1-hour	NS	5	0.13	0.141	0.116	0.115	0.12	0.122	0.117	0.131	0.116
PM <sub>10</sub>	90th percentile	NS	12	51.917	46.167	40.5	41	46.583	40.583	39.583	40.833	41.417
	weighted annual mean	Down	12	30.6	29.225	26.25	25.433	27.925	25.325	26.133	25.933	25.125
SO <sub>2</sub>	arithmetic mean	Down	7	0.014	0.014	0.013	0.012	0.013	0.01	0.01	0.009	0.008
	2nd max 24-hour	Down	7	0.054	0.048	0.051	0.039	0.054	0.038	0.04	0.033	0.03
<b>NEWARK, NJ</b>												
CO	2nd max 8-hour	Down	3	7.1	8.333	5.633	4.933	7.667	6.033	5.067	4.6	3.667
NO <sub>2</sub>	arithmetic mean	NS	4	0.029	0.028	0.03	0.028	0.03	0.028	0.029	0.028	0.029
O <sub>3</sub>	4th max 8-hour	NS	2	0.096	0.105	0.085	0.092	0.09	0.105	0.087	0.097	0.092
	2nd daily max 1-hour	NS	2	0.127	0.125	0.105	0.115	0.114	0.12	0.115	0.11	0.116
PM <sub>10</sub>	90th percentile	NS	3	55	52.333	44	52	57.333	46	48.667	48.667	44.667
	weighted annual mean	NS	3	30.633	29.9	28.733	30.133	34.567	27.833	31.4	30.933	27.8
SO <sub>2</sub>	arithmetic mean	Down	4	0.01	0.01	0.009	0.007	0.008	0.006	0.006	0.006	0.006
	2nd max 24-hour	Down	4	0.04	0.035	0.04	0.025	0.033	0.025	0.027	0.023	0.021
<b>NEWBURGH, NY-PA</b>												
Pb	max quarterly mean	Down	2	1.01	0.655	0.577	0.344	0.081	0.079	0.059	0.198	0.1
<b>NORFOLK-VIRGINIA BEACH-NEWPORT NEWS, VA-N</b>												
CO	2nd max 8-hour	NS	3	4.533	5.133	4.333	4.967	5.367	4.267	4.3	4.033	4.633
NO <sub>2</sub>	arithmetic mean	NS	1	0.019	0.02	0.02	0.021	0.019	0.018	0.018	0.019	0.017
O <sub>3</sub>	4th max 8-hour	NS	3	0.085	0.083	0.086	0.094	0.081	0.083	0.077	0.092	0.088
	2nd daily max 1-hour	NS	3	0.104	0.103	0.125	0.119	0.101	0.105	0.094	0.111	0.103
PM <sub>10</sub>	90th percentile	NS	2	37.5	43	36	41	30.5	34	33	35.5	36
	weighted annual mean	NS	2	24.5	25.15	21.6	23.45	19.8	19.7	20.8	21.6	21.85
SO <sub>2</sub>	arithmetic mean	Down	2	0.007	0.007	0.006	0.007	0.007	0.006	0.006	0.006	0.006
	2nd max 24-hour	Down	2	0.025	0.022	0.024	0.026	0.024	0.022	0.022	0.025	0.02
<b>OAKLAND, CA</b>												
CO	2nd max 8-hour	Down	5	4.92	4.98	4.14	3.54	3.72	2.82	2.96	3	2.98
Pb	max quarterly mean	Down	2	0.073	0.061	0.022	0.024	0.017	0.028	0.012	0.008	0.008
NO <sub>2</sub>	arithmetic mean	Down	2	0.021	0.022	0.02	0.02	0.02	0.019	0.018	0.017	0.019
O <sub>3</sub>	4th max 8-hour	NS	7	0.062	0.065	0.067	0.069	0.065	0.082	0.073	0.06	0.069
	2nd daily max 1-hour	NS	7	0.097	0.1	0.097	0.106	0.099	0.133	0.107	0.094	0.104
PM <sub>10</sub>	90th percentile	Down	3	58.667	64.667	41.333	39	38	36.667	34.667	32.667	28.667
	weighted annual mean	Down	3	32.267	34.1	26.767	23.733	23.8	21.167	21.967	21.733	19.033
SO <sub>2</sub>	arithmetic mean	NS	3	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	NS	3	0.011	0.01	0.009	0.01	0.007	0.007	0.007	0.008	0.009

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>OKLAHOMA CITY, OK</b>												
CO	2nd max 8-hour	Down	2	4.5	3.9	4.3	5.15	4.25	3.8	3.95	4	3.35
Pb	max quarterly mean	Down	1	0.036	0.039	0.029	0.017	0.013	0.017	0.008	0.001	0.001
NO <sub>2</sub>	arithmetic mean	NS	3	0.012	0.011	0.011	0.011	0.012	0.012	0.012	0.013	0.012
O <sub>3</sub>	4th max 8-hour	up	4	0.075	0.078	0.073	0.071	0.078	0.085	0.078	0.08	0.086
	2nd daily max 1-hour	NS	4	0.098	0.099	0.093	0.092	0.093	0.11	0.094	0.098	0.107
PM <sub>10</sub>	90th percentile	NS	4	36	34.5	34	34.25	33.75	37.5	39	38.5	38.5
	weighted annual mean	NS	4	21.525	22.2	21.65	20.875	21.05	21.425	24.225	21.85	21.85
<b>OLYMPIA, WA</b>												
PM <sub>10</sub>	90th percentile	Down	1	44	43	42	49	30	35	30	36	22
	weighted annual mean	Down	1	23.6	25	23.8	23.8	17.4	17.2	15.6	16.4	14.2
<b>OMAHA, NE-IA</b>												
CO	2nd max 8-hour	NS	2	5.15	5.8	5.9	5.3	3.95	5.5	4.85	4.2	5.3
Pb	max quarterly mean	NS	6	0.841	0.752	1.329	1.29	1.684	1.032	1.003	0.348	0.046
O <sub>3</sub>	4th max 8-hour	NS	3	0.06	0.064	0.063	0.05	0.06	0.063	0.056	0.062	0.064
	2nd daily max 1-hour	NS	3	0.069	0.077	0.076	0.059	0.073	0.077	0.068	0.072	0.077
PM <sub>10</sub>	90th percentile	NS	7	63.286	58.571	62.429	47.857	51.857	51.857	49.143	51.571	60.429
	weighted annual mean	NS	7	37.157	36.357	35.529	31	32.957	29.586	32.7	32.714	34.486
<b>ORANGE COUNTY, CA</b>												
CO	2nd max 8-hour	Down	4	8.275	6.95	7.475	5.8	7.325	5.725	5.75	4.775	5
NO <sub>2</sub>	arithmetic mean	Down	3	0.039	0.038	0.034	0.032	0.034	0.033	0.029	0.028	0.029
O <sub>3</sub>	4th max 8-hour	Down	4	0.106	0.099	0.105	0.094	0.097	0.084	0.082	0.073	0.084
	2nd daily max 1-hour	Down	4	0.173	0.18	0.17	0.15	0.155	0.12	0.12	0.108	0.138
PM <sub>10</sub>	90th percentile	NS	2	75	67.5	53	57	53.5	68	46.5	50	52
	weighted annual mean	NS	2	45.45	41.25	37.2	36.3	35.6	40.55	32.65	37	33.3
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.002	0.002	0.002	0.003	0.001	0.001	0.002
	2nd max 24-hour	Down	1	0.008	0.007	0.008	0.006	0.005	0.005	0.004	0.006	0.005
<b>ORLANDO, FL</b>												
CO	2nd max 8-hour	Down	2	4.45	3.55	3.85	3.8	3.6	3.3	3.25	3.55	2.95
NO <sub>2</sub>	arithmetic mean	NS	1	0.012	0.012	0.011	0.012	0.011	0.01	0.013	0.013	0.011
O <sub>3</sub>	4th max 8-hour	NS	3	0.081	0.07	0.081	0.081	0.079	0.075	0.074	0.078	0.087
	2nd daily max 1-hour	NS	3	0.112	0.093	0.1	0.098	0.098	0.097	0.097	0.1	0.106
PM <sub>10</sub>	90th percentile	NS	5	35.2	33.8	34.6	31.2	29.4	30	31.8	30.8	34.4
	weighted annual mean	NS	5	24.5	24.56	22.8	21.68	21.08	20.14	21.36	21.84	22.98
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	2nd max 24-hour	NS	1	0.011	0.007	0.007	0.011	0.012	0.006	0.008	0.006	0.007
<b>OWENSBORO, KY</b>												
NO <sub>2</sub>	arithmetic mean	NS	1	0.011	0.011	0.012	0.012	0.012	0.013	0.011	0.012	0.011
O <sub>3</sub>	4th max 8-hour	NS	1	0.086	0.075	0.075	0.081	0.092	0.088	0.086	0.087	0.086
	2nd daily max 1-hour	NS	1	0.11	0.09	0.085	0.106	0.107	0.109	0.107	0.108	0.11
PM <sub>10</sub>	90th percentile	NS	3	45.333	44.667	45	44.667	44.667	48.333	41.333	42	43.333
	weighted annual mean	Down	3	29.033	29.233	26.7	25.1	28.7	27	24.167	24.267	24.633
SO <sub>2</sub>	arithmetic mean	Down	1	0.009	0.009	0.009	0.009	0.009	0.007	0.007	0.007	0.006
	2nd max 24-hour	Down	1	0.038	0.044	0.053	0.05	0.035	0.028	0.02	0.027	0.023
<b>PARKERSBURG-MARIETTA, WV-OH</b>												
Pb	max quarterly mean	NS	1	0.019	0.015	0.024	0.017	0.014	0.019	0.023	0.011	0.011
O <sub>3</sub>	4th max 8-hour	NS	2	0.084	0.102	0.08	0.092	0.095	0.097	0.088	0.085	0.093
	2nd daily max 1-hour	NS	2	0.113	0.12	0.156	0.114	0.113	0.117	0.107	0.106	0.121
PM <sub>10</sub>	90th percentile	NS	1	46	46	46	51	51	40	34	39	36
	weighted annual mean	Down	1	27.2	27.2	27.2	29.2	27.3	25.3	22.7	23.1	23.1
SO <sub>2</sub>	arithmetic mean	NS	1	0.014	0.014	0.014	0.014	0.017	0.01	0.01	0.01	0.013
	2nd max 24-hour	NS	1	0.064	0.06	0.059	0.065	0.084	0.041	0.046	0.052	0.089
<b>PENSACOLA, FL</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.088	0.075	0.087	0.08	0.085	0.083	0.079	0.085	0.095
	2nd daily max 1-hour	NS	2	0.112	0.103	0.104	0.102	0.108	0.117	0.098	0.11	0.121
SO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.007	0.008	0.006	0.005	0.003	0.004	0.004	0.004
	2nd max 24-hour	Down	2	0.074	0.063	0.063	0.047	0.045	0.023	0.024	0.031	0.023
<b>PEORIA-PEKIN, IL</b>												
CO	2nd max 8-hour	Down	1	7.4	6.3	7.2	7.3	5.7	5.6	4.6	4.7	5.8
Pb	max quarterly mean	Down	1	0.035	0.021	0.024	0.032	0.019	0.026	0.024	0.019	0.017
O <sub>3</sub>	4th max 8-hour	NS	2	0.071	0.079	0.075	0.064	0.075	0.082	0.081	0.072	0.076
	2nd daily max 1-hour	NS	2	0.084	0.096	0.09	0.079	0.089	0.094	0.089	0.086	0.085
PM <sub>10</sub>	90th percentile	Down	2	45	42.5	44.5	36.5	40.5	40	33.5	40	40.5
	weighted annual mean	NS	2	27.45	26.35	28.25	21.55	23.3	21.55	22.35	26.45	25.9
SO <sub>2</sub>	arithmetic mean	NS	2	0.007	0.008	0.007	0.007	0.007	0.007	0.007	0.007	0.006
	2nd max 24-hour	Down	2	0.055	0.065	0.043	0.039	0.05	0.084	0.045	0.042	0.041

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>PHILADELPHIA, PA-NJ</b>												
CO	2nd max 8-hour	Down	9	4.933	4.578	4.722	4.689	5.222	4.089	4.189	3.322	3.1
Pb	max quarterly mean	NS	10	0.535	0.354	0.563	0.856	0.537	0.694	0.921	0.769	0.273
NO <sub>2</sub>	arithmetic mean	NS	7	0.025	0.025	0.025	0.025	0.026	0.025	0.026	0.025	0.023
O <sub>3</sub>	4th max 8-hour	NS	8	0.103	0.109	0.09	0.099	0.091	0.106	0.093	0.103	0.097
	2nd daily max 1-hour	NS	8	0.132	0.135	0.113	0.127	0.117	0.13	0.12	0.125	0.118
PM <sub>10</sub>	90th percentile	Down	7	54.143	56.714	44	50.143	55.714	51.286	46.857	50.571	45.429
	weighted annual mean	Down	7	31.286	33.9	28.629	29.543	32.714	29.914	29.471	29.471	27.329
SO <sub>2</sub>	arithmetic mean	Down	13	0.01	0.009	0.008	0.008	0.009	0.007	0.007	0.007	0.006
	2nd max 24-hour	Down	13	0.039	0.034	0.034	0.031	0.04	0.028	0.026	0.027	0.024
<b>PHOENIX-MESA, AZ</b>												
CO	2nd max 8-hour	Down	8	6.65	6.225	6.463	5.988	6.263	6.15	5.65	5.1	5.3
Pb	max quarterly mean	Down	2	0.085	0.105	0.058	0.054	0.047	0.059	0.044	0.023	0.023
O <sub>3</sub>	4th max 8-hour	NS	8	0.079	0.074	0.081	0.081	0.08	0.087	0.086	0.08	0.081
	2nd daily max 1-hour	NS	8	0.109	0.101	0.113	0.111	0.111	0.119	0.109	0.102	0.104
PM <sub>10</sub>	90th percentile	NS	8	67	66.375	63.125	60.875	62	64.875	61.375	69.875	63.063
	weighted annual mean	NS	8	42.925	43.05	40.4	41.138	40.213	41.275	41.288	46.075	37.794
SO <sub>2</sub>	arithmetic mean	NS	1	0.003	0.005	0.004	0.003	0.003	0.002	0.003	0.004	0.003
	2nd max 24-hour	NS	1	0.011	0.013	0.01	0.009	0.009	0.008	0.017	0.009	0.011
<b>PINE BLUFF, AR</b>												
PM <sub>10</sub>	90th percentile	up	1	39	30	38	39	39	56	39	41	41
	weighted annual mean	up	1	20.9	19.1	21.9	23.4	24.7	26.4	23.3	24.5	24.5
<b>PITTSBURGH, PA</b>												
CO	2nd max 8-hour	Down	5	5.56	4.26	4.8	3.76	4.26	3.82	3.26	2.52	2.56
Pb	max quarterly mean	Down	4	0.088	0.087	0.067	0.066	0.084	0.061	0.042	0.049	0.044
NO <sub>2</sub>	arithmetic mean	Down	5	0.023	0.023	0.022	0.022	0.023	0.021	0.021	0.02	0.022
O <sub>3</sub>	4th max 8-hour	NS	8	0.081	0.092	0.074	0.088	0.093	0.099	0.089	0.093	0.097
	2nd daily max 1-hour	up	8	0.1	0.11	0.091	0.11	0.114	0.123	0.105	0.117	0.114
PM <sub>10</sub>	90th percentile	Down	19	60.842	59.211	54.605	54.368	62.263	54.579	48.947	51.105	48.368
	weighted annual mean	Down	19	20.174	20.132	18.121	17.489	19.495	17.105	16.521	16.737	16.174
SO <sub>2</sub>	arithmetic mean	Down	16	0.016	0.015	0.015	0.015	0.015	0.011	0.011	0.011	0.01
	2nd max 24-hour	Down	16	0.071	0.058	0.072	0.061	0.073	0.044	0.043	0.046	0.037
<b>PITTSFIELD, MA</b>												
O <sub>3</sub>	4th max 8-hour	Down	1	0.092	0.092	0.087	0.083	0.074	0.072	0.081	0.078	0.071
	2nd daily max 1-hour	NS	1	0.105	0.103	0.109	0.112	0.085	0.086	0.108	0.087	0.092
<b>POCATELLO, ID</b>												
PM <sub>10</sub>	90th percentile	Down	4	54	61	61.5	54.75	49.25	40.5	44.25	37.25	35.75
	weighted annual mean	Down	4	32.825	34.15	41.675	36.975	29.45	23.85	25.125	23.125	22.4
<b>PONCE, PR</b>												
PM <sub>10</sub>	90th percentile	NS	1	47	47	49	53	38	33	35	47	51
	weighted annual mean	NS	1	29.7	29.7	29.4	29.9	26.8	24.1	24.3	28.7	27.5
<b>PORTLAND, ME</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.092	0.109	0.097	0.089	0.088	0.096	0.083	0.103	0.089
	2nd daily max 1-hour	NS	1	0.125	0.141	0.118	0.112	0.122	0.116	0.1	0.13	0.12
PM <sub>10</sub>	90th percentile	NS	2	39	43.5	38	44	42.5	50	36	42.5	38.5
	weighted annual mean	NS	2	25.05	26.15	23.45	25.2	23.8	27.5	23.75	26.05	20.65
SO <sub>2</sub>	arithmetic mean	Down	1	0.01	0.009	0.008	0.009	0.008	0.006	0.005	0.005	0.005
	2nd max 24-hour	NS	1	0.034	0.032	0.029	0.032	0.043	0.022	0.021	0.023	0.025
<b>PORTLAND-VANCOUVER, OR-WA</b>												
CO	2nd max 8-hour	Down	2	8.45	9.1	6.95	6.3	7	5.65	6.05	5.35	5.05
O <sub>3</sub>	4th max 8-hour	NS	4	0.082	0.064	0.073	0.058	0.064	0.066	0.085	0.056	0.069
	2nd daily max 1-hour	NS	4	0.116	0.095	0.097	0.087	0.087	0.097	0.115	0.081	0.106
PM <sub>10</sub>	90th percentile	Down	6	42	43.333	39.167	42.5	36.833	31.333	33	31.833	30.5
	weighted annual mean	Down	6	25.1	25.633	22.683	24.85	22.75	19.583	20.067	21.367	18.833
												18.617
<b>PORTSMOUTH-ROCHESTER, NH-ME</b>												
NO <sub>2</sub>	arithmetic mean	Down	1	0.015	0.015	0.013	0.014	0.013	0.012	0.013	0.012	0.01
O <sub>3</sub>	4th max 8-hour	NS	2	0.081	0.101	0.087	0.089	0.092	0.092	0.083	0.096	0.085
	2nd daily max 1-hour	NS	2	0.111	0.141	0.112	0.107	0.113	0.124	0.103	0.129	0.113
PM <sub>10</sub>	90th percentile	Down	2	33	35.5	31.5	29.5	27	26	26.5	29	25.5
	weighted annual mean	Down	2	19.8	19.45	18.9	18.2	14.2	14.9	16.3	17.05	15.85
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.007	0.006	0.006	0.006	0.004	0.004	0.004	0.004
	2nd max 24-hour	Down	1	0.025	0.021	0.027	0.019	0.022	0.017	0.015	0.018	0.016
<b>PROVIDENCE-FALL RIVER-WARWICK, RI-MA</b>												
CO	2nd max 8-hour	Down	1	7.3	7.4	6.3	5.4	6.7	7	4.4	5.6	4.7
NO <sub>2</sub>	arithmetic mean	NS	1	0.024	0.025	0.023	0.022	0.022	0.022	0.025	0.025	0.024
O <sub>3</sub>	4th max 8-hour	NS	2	0.095	0.104	0.083	0.086	0.087	0.098	0.074	0.092	0.086
	2nd daily max 1-hour	NS	2	0.131	0.138	0.114	0.109	0.118	0.127	0.1	0.112	0.109
PM <sub>10</sub>	90th percentile	Down	3	44.333	48	40	43	49	37.667	40.667	38.333	36.333
	weighted annual mean	Down	3	29.167	29.833	24.433	26.433	28.867	23.867	26.7	25.467	22.933
SO <sub>2</sub>	arithmetic mean	Down	3	0.01	0.01	0.009	0.008	0.008	0.005	0.006	0.006	0.005
	2nd max 24-hour	Down	3	0.037	0.036	0.042	0.033	0.033	0.023	0.028	0.029	0.027
												0.026

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>PROVO-OREM, UT</b>													
NO <sub>2</sub>	arithmetic mean	NS	1	0.019	0.019	0.019	0.026	0.024	0.023	0.024	0.023	0.024	0.024
O <sub>3</sub>	4th max 8-hour	NS	1	0.07	0.067	0.071	0.068	0.069	0.068	0.078	0.07	0.083	0.073
	2nd daily max 1-hour	NS	1	0.093	0.084	0.089	0.084	0.084	0.083	0.097	0.08	0.102	0.096
PM <sub>10</sub>	90th percentile	Down	3	54.667	90.667	68.333	70.667	55.667	49.333	57.333	50	46.667	51.667
	weighted annual mean	Down	3	32.2	42.433	37	38.233	33.7	29	33.7	29.967	27.467	29.7
<b>PUEBLO, CO</b>													
PM <sub>10</sub>	90th percentile	Down	1	43	46	46	38	45	45	42	41	33	33
	weighted annual mean	Down	1	26.3	29.7	26.3	26.1	29.6	26.2	25.8	26.8	21.7	21.7
<b>RACINE, WI</b>													
CO	2nd max 8-hour	Down	1	5.5	5.7	4.9	4.1	4.3	4.3	3	3.1	3	2.7
O <sub>3</sub>	4th max 8-hour	NS	1	0.086	0.099	0.08	0.08	0.088	0.096	0.083	0.098	0.084	0.093
	2nd daily max 1-hour	NS	1	0.11	0.135	0.102	0.103	0.114	0.113	0.129	0.117	0.124	0.114
<b>RALEIGH-DURHAM-CHAPEL HILL, NC</b>													
CO	2nd max 8-hour	Down	2	7.15	7.2	6.45	6.25	6.3	6	5.5	6.75	5.3	5.05
O <sub>3</sub>	4th max 8-hour	NS	1	0.093	0.085	0.082	0.095	0.083	0.081	0.082	0.097	0.099	0.108
	2nd daily max 1-hour	NS	1	0.12	0.107	0.099	0.113	0.107	0.096	0.093	0.112	0.124	0.134
PM <sub>10</sub>	90th percentile	NS	2	44.5	40.5	35.5	39	31	33.5	39	39	40	36.5
	weighted annual mean	NS	2	28.6	25.55	24	24.75	21.8	23.3	25.1	24.6	24.4	22.15
<b>RAPID CITY, SD</b>													
PM <sub>10</sub>	90th percentile	Down	3	50.667	52.333	47.667	45	55.333	45.333	42.667	51.667	42.333	38
	weighted annual mean	NS	3	30.367	31.233	28.8	26.233	32.733	26.667	27.1	29.8	26.7	23.833
<b>READING, PA</b>													
CO	2nd max 8-hour	Down	1	6.4	4.6	4.6	3.8	5.4	3.9	3.4	3	3	3
Pb	max quarterly mean	Down	12	0.59	0.64	0.558	0.47	0.485	0.343	0.327	0.368	0.412	0.48
NO <sub>2</sub>	arithmetic mean	NS	1	0.022	0.022	0.02	0.021	0.023	0.021	0.022	0.021	0.021	0.021
O <sub>3</sub>	4th max 8-hour	NS	2	0.092	0.104	0.086	0.088	0.084	0.093	0.086	0.092	0.091	0.101
	2nd daily max 1-hour	NS	2	0.111	0.121	0.099	0.108	0.104	0.112	0.105	0.115	0.105	0.126
SO <sub>2</sub>	arithmetic mean	NS	2	0.01	0.01	0.009	0.009	0.011	0.009	0.009	0.009	0.009	0.009
	2nd max 24-hour	Down	2	0.035	0.034	0.033	0.033	0.04	0.033	0.036	0.03	0.024	0.026
<b>REDDING, CA</b>													
O <sub>3</sub>	4th max 8-hour	NS	1	0.078	0.066	0.069	0.064	0.078	0.074	0.073	0.067	0.078	0.084
	2nd daily max 1-hour	NS	1	0.092	0.077	0.08	0.072	0.09	0.089	0.083	0.079	0.089	0.108
PM <sub>10</sub>	90th percentile	Down	1	42	56	45	37	39	34	32	30	30	35
	weighted annual mean	Down	1	25	28.7	24.6	20.1	24.4	19.6	18.7	16.9	17.6	20
<b>RENO, NV</b>													
CO	2nd max 8-hour	NS	5	7.02	7.48	5.86	4.98	5.96	4.38	5.16	5.02	4.72	5.34
O <sub>3</sub>	4th max 8-hour	NS	4	0.074	0.07	0.07	0.062	0.07	0.07	0.072	0.065	0.072	0.071
	2nd daily max 1-hour	NS	4	0.107	0.09	0.084	0.085	0.086	0.082	0.09	0.077	0.087	0.087
PM <sub>10</sub>	90th percentile	Down	6	92	72.833	63.5	71.333	65.333	51.667	51.5	52.167	53.5	53.667
	weighted annual mean	Down	6	43.75	35.833	36.3	40.25	36.3	31.567	29.35	31.733	30.717	34.517
<b>RICHMOND-PETERSBURG, VA</b>													
CO	2nd max 8-hour	NS	2	4.4	3.65	2.5	3.9	3.4	2.55	2.85	3.2	2.8	2.9
NO <sub>2</sub>	arithmetic mean	Down	1	0.023	0.024	0.023	0.024	0.024	0.022	0.022	0.021	0.021	0.021
O <sub>3</sub>	4th max 8-hour	NS	4	0.083	0.085	0.086	0.098	0.085	0.09	0.083	0.097	0.095	0.097
	2nd daily max 1-hour	NS	4	0.109	0.109	0.115	0.124	0.11	0.115	0.103	0.12	0.12	0.126
PM <sub>10</sub>	90th percentile	NS	3	39.667	45	35.667	42.667	33	38.333	37	37	37.333	33.667
	weighted annual mean	Down	3	24.867	26.233	22	23.267	20.5	23.2	23.733	22.433	21.867	20.267
SO <sub>2</sub>	arithmetic mean	NS	2	0.006	0.005	0.007	0.006	0.005	0.006	0.005	0.005	0.005	0.005
	2nd max 24-hour	NS	2	0.027	0.024	0.022	0.028	0.023	0.02	0.025	0.021	0.022	0.021
<b>RIVERSIDE-SAN BERNARDINO, CA</b>													
CO	2nd max 8-hour	Down	6	4.683	5.667	4.017	3.9	3.833	3.75	3.233	3.4	3.167	2.85
Pb	max quarterly mean	NS	4	0.051	0.056	0.033	0.038	0.037	0.04	0.038	0.04	0.039	0.047
NO <sub>2</sub>	arithmetic mean	Down	8	0.028	0.029	0.027	0.028	0.028	0.028	0.026	0.024	0.023	0.025
O <sub>3</sub>	4th max 8-hour	Down	15	0.145	0.148	0.141	0.134	0.135	0.126	0.122	0.102	0.124	0.101
	2nd daily max 1-hour	Down	15	0.214	0.207	0.197	0.181	0.186	0.177	0.166	0.147	0.166	0.128
PM <sub>10</sub>	90th percentile	Down	11	90.818	83.727	70.591	72.909	65.273	68.318	62	60.636	60.909	65.364
	weighted annual mean	Down	11	57.955	53.918	44.5	43.545	42.191	42.532	40.245	39.4	37.091	43.473
SO <sub>2</sub>	arithmetic mean	NS	4	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002
	2nd max 24-hour	NS	4	0.007	0.008	0.009	0.007	0.004	0.005	0.004	0.004	0.007	0.007
<b>ROANOKE, VA</b>													
NO <sub>2</sub>	arithmetic mean	NS	1	0.013	0.014	0.013	0.014	0.013	0.013	0.013	0.014	0.012	
O <sub>3</sub>	4th max 8-hour	Up	1	0.075	0.077	0.072	0.084	0.084	0.079	0.073	0.084	0.099	0.089
	2nd daily max 1-hour	NS	1	0.086	0.1	0.089	0.103	0.102	0.093	0.084	0.102	0.126	0.105
PM <sub>10</sub>	90th percentile	NS	2	58	50.5	47.5	56	55	54	58	51.5	48.5	48.5
	weighted annual mean	Down	2	36.45	32.5	31.65	34.85	35.55	34.35	33.05	29.85	29.2	29.9
SO <sub>2</sub>	arithmetic mean	NS	1	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	
	2nd max 24-hour	Down	1	0.018	0.019	0.016	0.018	0.011	0.01	0.014	0.013	0.009	0.01
<b>ROCHESTER, MN</b>													
PM <sub>10</sub>	90th percentile	Down	1	48	37	37	31	33	32	34	31	31	31
	weighted annual mean	NS	1	27.7	22.7	21.2	20.4	20.8	20.2	19.4	20	21.2	21.2

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>ROCHESTER, NY</b>												
CO	2nd max 8-hour	NS	2	3.45	3.25	3.5	3.15	4.5	3.15	3.7	1.9	2.7
O <sub>3</sub>	4th max 8-hour	NS	2	0.087	0.098	0.076	0.078	0.079	0.093	0.069	0.085	0.081
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.108	0.111	0.09	0.094	0.094	0.107	0.085	0.099	0.096
	90th percentile	NS	2	37.5	48.5	37.5	39.5	33	37	35	33	36
	weighted annual mean	Down	2	21.3	25.85	22.4	22.8	20.05	20.8	21.45	19.9	19.8
SO <sub>2</sub>	arithmetic mean	Down	2	0.012	0.011	0.011	0.01	0.011	0.01	0.009	0.008	0.009
	2nd max 24-hour	NS	2	0.04	0.043	0.039	0.041	0.043	0.038	0.033	0.038	0.053
<b>ROCKFORD, IL</b>												
CO	2nd max 8-hour	Down	1	6.5	5.1	4.6	4.3	4	4.5	3.2	3.7	3.6
Pb	max quarterly mean	NS	1	0.085	0.044	0.059	0.034	0.039	0.027	0.049	0.029	0.043
O <sub>3</sub>	4th max 8-hour	NS	2	0.068	0.077	0.082	0.067	0.079	0.085	0.078	0.072	0.072
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.085	0.091	0.093	0.077	0.102	0.101	0.089	0.082	0.084
	90th percentile	NS	1	45	35	31	26	36	39	29	42	39
	weighted annual mean	NS	1	25.2	22.2	21.4	16.3	18.8	18.9	17.6	25.6	24.1
<b>SACRAMENTO, CA</b>												
CO	2nd max 8-hour	Down	7	7.786	7.2	5.486	5.657	5.471	4.586	4.271	3.929	3.957
Pb	max quarterly mean	Down	2	0.105	0.04	0.022	0.049	0.019	0.021	0.014	0.012	0.009
NO <sub>2</sub>	arithmetic mean	Down	3	0.02	0.017	0.018	0.018	0.016	0.017	0.017	0.015	0.016
O <sub>3</sub>	4th max 8-hour	NS	8	0.093	0.095	0.094	0.09	0.091	0.097	0.094	0.081	0.094
PM <sub>10</sub>	2nd daily max 1-hour	NS	8	0.13	0.128	0.124	0.116	0.113	0.128	0.116	0.101	0.126
	90th percentile	Down	3	54.333	54.333	42	38	37.667	47	33.667	31.333	31.333
	weighted annual mean	Down	3	31.233	31.233	27.633	22.667	23.8	22.9	20	20.167	18.8
SO <sub>2</sub>	arithmetic mean	NS	2	0.004	0.002	0.002	0.001	0.001	0.002	0.002	0.002	0.003
	2nd max 24-hour	NS	2	0.011	0.011	0.01	0.004	0.005	0.005	0.004	0.005	0.01
<b>ST. JOSEPH, MO</b>												
PM <sub>10</sub>	90th percentile	Down	1	71	79	70	56	62	67	52	57	47
	weighted annual mean	Down	1	40.2	44	38.6	31.5	33.7	33.3	32.4	31.4	25.8
<b>ST. LOUIS, MO-IL</b>												
CO	2nd max 8-hour	Down	8	4.25	4.313	3.45	3.538	3.763	3.313	3.425	3.238	3.4
Pb	max quarterly mean	Down	13	0.76	0.68	0.697	0.573	0.66	0.677	0.671	0.535	0.433
NO <sub>2</sub>	arithmetic mean	NS	9	0.018	0.018	0.019	0.018	0.019	0.019	0.019	0.018	0.019
O <sub>3</sub>	4th max 8-hour	NS	16	0.081	0.086	0.08	0.074	0.09	0.09	0.084	0.083	0.085
PM <sub>10</sub>	2nd daily max 1-hour	NS	16	0.108	0.108	0.1	0.108	0.117	0.116	0.108	0.108	0.115
	90th percentile	NS	15	54.467	48.2	50.533	46.333	49.533	51.467	42.533	44.8	48.6
	weighted annual mean	Down	15	32.96	31.807	32.047	28.187	31.12	30.773	27.327	27.553	30.033
SO <sub>2</sub>	arithmetic mean	Down	16	0.011	0.01	0.009	0.009	0.009	0.008	0.008	0.007	0.006
	2nd max 24-hour	Down	16	0.042	0.041	0.038	0.04	0.04	0.037	0.038	0.034	0.029
<b>SALINAS, CA</b>												
CO	2nd max 8-hour	Down	1	2.5	2.1	2.3	2.1	2	1.7	2.4	1.7	1.6
NO <sub>2</sub>	arithmetic mean	Down	1	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.01	0.01
O <sub>3</sub>	4th max 8-hour	NS	4	0.062	0.062	0.061	0.065	0.057	0.057	0.063	0.056	0.056
PM <sub>10</sub>	2nd daily max 1-hour	Down	4	0.08	0.078	0.075	0.083	0.08	0.071	0.079	0.071	0.07
	90th percentile	NS	2	40	37	33.5	33	29	37.75	35	32	30.5
	weighted annual mean	NS	2	23.45	23.9	21.45	19.7	18.15	19	19	20.85	17.35
<b>SALT LAKE CITY-OGDEN, UT</b>												
CO	2nd max 8-hour	Down	1	6.8	7.5	6.5	6.4	5.9	4.5	6.2	5.4	4.9
Pb	max quarterly mean	NS	2	0.083	0.079	0.049	0.07	0.049	0.051	0.028	0.07	0.063
NO <sub>2</sub>	arithmetic mean	NS	2	0.019	0.02	0.02	0.024	0.023	0.022	0.023	0.022	0.023
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.079	0.074	0.079	0.081	0.083	0.085	0.077	0.094
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.113	0.108	0.097	0.104	0.109	0.115	0.114	0.102	0.122
	90th percentile	Down	6	56.333	89	73.667	68.333	52.5	49.333	61	49	45.667
	weighted annual mean	Down	6	33.267	41.183	35.85	36.717	32.033	28.867	33.167	28.95	26.717
SO <sub>2</sub>	arithmetic mean	Down	3	0.009	0.01	0.009	0.007	0.004	0.003	0.003	0.003	0.003
	2nd max 24-hour	Down	3	0.039	0.051	0.046	0.043	0.013	0.013	0.014	0.008	0.008
<b>SAN ANTONIO, TX</b>												
CO	2nd max 8-hour	Down	1	5.2	5.2	5.2	5	3.3	4.3	4.5	4.4	4.6
O <sub>3</sub>	4th max 8-hour	NS	2	0.084	0.08	0.072	0.081	0.088	0.092	0.081	0.083	0.082
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.1	0.105	0.096	0.11	0.105	0.117	0.118	0.102	0.1
	90th percentile	Down	1	47	42	46	38	39	35	28	32	32
	weighted annual mean	Down	1	28.3	29.1	28.6	22.7	23.4	22	19.7	20.7	20.7
<b>SAN DIEGO, CA</b>												
CO	2nd max 8-hour	Down	8	5.588	5.25	4.95	4.413	4.738	4.213	4.288	3.838	3.525
Pb	max quarterly mean	Down	3	0.094	0.044	0.03	0.033	0.016	0.025	0.019	0.019	0.013
NO <sub>2</sub>	arithmetic mean	Down	7	0.025	0.025	0.024	0.02	0.021	0.021	0.019	0.019	0.018
O <sub>3</sub>	4th max 8-hour	Down	9	0.105	0.099	0.094	0.09	0.082	0.082	0.083	0.078	0.079
PM <sub>10</sub>	2nd daily max 1-hour	Down	9	0.154	0.147	0.139	0.132	0.109	0.116	0.104	0.112	0.106
	90th percentile	Down	3	54.333	54	44	46	42	46	38	38	36
	weighted annual mean	Down	3	34.233	37.133	31.5	30.033	30.667	32.167	27.7	26.8	22.867
SO <sub>2</sub>	arithmetic mean	NS	3	0.004	0.003	0.004	0.002	0.003	0.003	0.004	0.003	0.003
	2nd max 24-hour	NS	3	0.015	0.017	0.017	0.009	0.013	0.012	0.015	0.012	0.011

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>SAN FRANCISCO, CA</b>													
CO	2nd max 8-hour	Down	4	5.7	6.15	4.825	4.6	4.25	3.65	3.9	3.35	3.5	
Pb	max quarterly mean	Down	1	0.044	0.04	0.02	0.026	0.019	0.027	0.014	0.02	0.013	
NO <sub>2</sub>	arithmetic mean	Down	1	0.021	0.024	0.022	0.024	0.022	0.021	0.022	0.02	0.02	
O <sub>3</sub>	4th max 8-hour	NS	3	0.044	0.046	0.045	0.048	0.049	0.061	0.055	0.048	0.045	
	2nd daily max 1-hour	NS	3	0.06	0.063	0.063	0.083	0.072	0.094	0.082	0.074	0.063	
PM <sub>10</sub>	90th percentile	Down	1	59	66	56	39	47	34	32	33	34	
	weighted annual mean	Down	1	28.3	32.1	28.5	26.5	24.8	21	21.1	23.9	22.4	
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.003	0.002	0.001	0.002	0.002	0.002	0.002	
	2nd max 24-hour	NS	1	0.01	0.013	0.012	0.01	0.005	0.005	0.007	0.006	0.006	
<b>SAN JOSE, CA</b>													
CO	2nd max 8-hour	Down	2	10.75	10.15	7.25	6.4	7.35	5.6	5.65	5.35	6.05	
Pb	max quarterly mean	Down	2	0.075	0.037	0.029	0.023	0.017	0.016	0.013	0.011	0.013	0.013
O <sub>3</sub>	4th max 8-hour	NS	4	0.071	0.073	0.07	0.073	0.067	0.083	0.081	0.062	0.073	0.072
	2nd daily max 1-hour	NS	4	0.105	0.11	0.108	0.105	0.096	0.118	0.109	0.084	0.111	0.11
PM <sub>10</sub>	90th percentile	Down	4	72	63.75	54.75	45.5	46.75	38.5	30.75	31.75	33	
	weighted annual mean	Down	4	35.75	33.775	29.7	25.825	26.275	21.5	20.75	22.475	20.95	
<b>SAN JUAN-BAYAMON, PR</b>													
CO	2nd max 8-hour	Down	2	5.3	5.25	5.3	4.45	4.8	4.85	3.95	3.9	3.75	
PM <sub>10</sub>	90th percentile	NS	7	59.286	47.143	44.429	54.429	45.429	36.714	39.286	50.286	47.429	
	weighted annual mean	NS	7	33.429	29.157	27.714	31.443	28.886	25.071	26.486	30.4	28.043	
SO <sub>2</sub>	arithmetic mean	Down	2	0.007	0.01	0.009	0.008	0.008	0.006	0.005	0.004	0.003	
	2nd max 24-hour	Down	2	0.056	0.062	0.069	0.038	0.048	0.039	0.021	0.017	0.013	
<b>SAN LUIS OBISPO-ATASCADERO-PASO ROBLES, CA</b>													
CO	2nd max 8-hour	Down	1	3.9	3.3	3	3.1	3.1	2.4	2.3	2.3	2	
NO <sub>2</sub>	arithmetic mean	Down	3	0.013	0.013	0.012	0.012	0.012	0.011	0.011	0.011	0.01	
O <sub>3</sub>	4th max 8-hour	NS	5	0.069	0.066	0.065	0.064	0.064	0.064	0.069	0.062	0.067	
	2nd daily max 1-hour	NS	5	0.086	0.084	0.082	0.081	0.078	0.081	0.086	0.073	0.081	
PM <sub>10</sub>	90th percentile	Down	3	38	39.667	32	41.667	33	35.667	31.667	30.333	23.333	
	weighted annual mean	Down	3	23.133	24.367	21.233	22.4	21.167	21.2	18.333	19.967	15.433	
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.001	
	2nd max 24-hour	NS	1	0.006	0.005	0.004	0.004	0.005	0.004	0.004	0.004	0.004	
<b>SANTA BARBARA-SANTA MARIA-LOMPOC, CA</b>													
CO	2nd max 8-hour	Down	4	2.35	2.325	2.25	2.15	2.5	2.1	1.85	1.625	1.675	
Pb	max quarterly mean	Down	1	0.032	0.027	0.012	0.015	0.01	0.009	0.007	0.008	0.008	
NO <sub>2</sub>	arithmetic mean	Down	15	0.007	0.007	0.007	0.006	0.007	0.006	0.006	0.006	0.006	
O <sub>3</sub>	4th max 8-hour	Down	16	0.079	0.074	0.079	0.076	0.073	0.074	0.079	0.069	0.064	
	2nd daily max 1-hour	Down	16	0.105	0.103	0.104	0.099	0.095	0.101	0.107	0.087	0.087	
PM <sub>10</sub>	90th percentile	NS	10	35.3	35.7	32.3	37.8	35.6	33.1	33.1	34.7	33.3	
	weighted annual mean	NS	10	23.17	22.17	21.5	22.58	22.96	21.71	20.96	22.5	21.12	
SO <sub>2</sub>	arithmetic mean	NS	11	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
	2nd max 24-hour	Down	11	0.003	0.003	0.003	0.004	0.003	0.004	0.003	0.002	0.002	
<b>SANTA CRUZ-WATSONVILLE, CA</b>													
CO	2nd max 8-hour	Down	1	1	1	1	1	1.2	0.8	0.7	0.7	0.8	
NO <sub>2</sub>	arithmetic mean	Down	1	0.008	0.01	0.007	0.006	0.006	0.005	0.005	0.004	0.005	
O <sub>3</sub>	4th max 8-hour	NS	1	0.06	0.055	0.061	0.061	0.053	0.051	0.049	0.051	0.049	
	2nd daily max 1-hour	NS	1	0.07	0.07	0.07	0.07	0.068	0.06	0.069	0.063	0.055	
SO <sub>2</sub>	arithmetic mean	NS	1	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.001	
	2nd max 24-hour	NS	1	0.003	0.002	0.006	0.006	0.006	0.008	0.003	0.002	0.003	
<b>SANTA FE, NM</b>													
CO	2nd max 8-hour	Down	1	3.5	3.9	3.7	3.4	2.7	2.3	2.2	2.1	2	
PM <sub>10</sub>	90th percentile	Down	2	23.5	21.5	23	22.5	21	18.5	21	19.5	20	
	weighted annual mean	Down	2	16.6	14.35	16.15	14.85	13.75	12.75	13.95	13.55	13.6	
<b>SANTA ROSA, CA</b>													
CO	2nd max 8-hour	Down	1	4.3	3.8	3.5	3.8	3.2	2.4	3	3.1	3.3	
NO <sub>2</sub>	arithmetic mean	NS	1	0.015	0.015	0.016	0.016	0.015	0.015	0.014	0.013	0.015	
O <sub>3</sub>	4th max 8-hour	up	2	0.056	0.059	0.057	0.061	0.06	0.065	0.062	0.064	0.063	
	2nd daily max 1-hour	up	2	0.075	0.08	0.075	0.085	0.085	0.089	0.08	0.089	0.084	
PM <sub>10</sub>	90th percentile	Down	3	37.333	46	33	33.667	28.333	28.667	26.667	23	23.333	
	weighted annual mean	Down	3	20.067	23.433	18.4	19.133	17.9	15.7	15.667	14.933	13.967	
<b>SARASOTA-BRADENTON, FL</b>													
CO	2nd max 8-hour	NS	1	6.2	6.9	5.6	6.5	5.3	5.9	5.1	5.3	5.6	
O <sub>3</sub>	4th max 8-hour	NS	3	0.077	0.074	0.077	0.075	0.079	0.077	0.073	0.077	0.084	
	2nd daily max 1-hour	NS	4	0.096	0.095	0.092	0.097	0.095	0.095	0.092	0.101	0.114	
PM <sub>10</sub>	90th percentile	Down	3	42.667	42.333	41.333	38.667	35	33.667	28.667	29.667	31.333	
	weighted annual mean	Down	3	27.967	25.1	26.533	26.533	22.867	21.367	20.033	20.533	20.967	
SO <sub>2</sub>	arithmetic mean	Down	1	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	
	2nd max 24-hour	NS	1	0.016	0.035	0.021	0.018	0.017	0.01	0.018	0.009	0.019	
<b>SAVANNAH, GA</b>													
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.003	0.003	
	2nd max 24-hour	NS	1	0.008	0.009	0.008	0.011	0.015	0.013	0.019	0.013	0.01	

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>SCRANTON—WILKES-BARRE—HAZLETON, PA</b>													
CO	2nd max 8-hour	Down	2	4.5	4.15	3.75	2.9	3.55	2.8	3.8	3.05	2.5	2.15
NO <sub>2</sub>	arithmetic mean	Down	2	0.018	0.017	0.016	0.018	0.018	0.016	0.018	0.016	0.015	0.015
O <sub>3</sub>	4th max 8-hour	NS	4	0.091	0.098	0.081	0.088	0.081	0.088	0.081	0.087	0.087	0.092
	2nd daily max 1-hour	NS	4	0.106	0.118	0.095	0.11	0.098	0.105	0.103	0.101	0.103	0.109
PM <sub>10</sub>	90th percentile	Down	3	46	48.667	40.667	45.667	49	45	37.667	39	39	39
	weighted annual mean	NS	3	25.367	28.933	25.067	26.233	28.433	25.467	23.533	25.7	25.7	25.7
SO <sub>2</sub>	arithmetic mean	Down	2	0.01	0.009	0.008	0.007	0.007	0.005	0.006	0.007	0.006	0.006
	2nd max 24-hour	Down	2	0.049	0.039	0.033	0.026	0.035	0.036	0.028	0.029	0.024	0.022
<b>SEATTLE-BELLEVUE-EVERETT, WA</b>													
CO	2nd max 8-hour	Down	6	7.617	7.7	7.783	5.783	5.683	5.55	5.333	5.6	4.65	4.717
Pb	max quarterly mean	NS	1	0.641	0.561	0.4	0.368	0.607	0.513	0.658	0.874	2.033	0.046
O <sub>3</sub>	4th max 8-hour	NS	2	0.088	0.074	0.078	0.066	0.064	0.067	0.082	0.065	0.071	0.06
	2nd daily max 1-hour	NS	2	0.127	0.105	0.098	0.098	0.12	0.093	0.108	0.084	0.12	0.078
PM <sub>10</sub>	90th percentile	Down	8	48.75	49.75	47.875	50.125	38.25	37	32	36.75	31.625	30
	weighted annual mean	Down	8	28.55	29.3	28.838	27.613	22.513	21.725	20.288	22.025	18.675	18.888
SO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.008	0.008	0.008	0.006	0.005	0.004	0.004	0.005	0.005
	2nd max 24-hour	Down	2	0.023	0.023	0.02	0.02	0.022	0.017	0.017	0.011	0.013	0.015
<b>SHARON, PA</b>													
Pb	max quarterly mean	Down	1	0.087	0.087	0.073	0.047	0.054	0.049	0.067	0.044	0.042	0.042
O <sub>3</sub>	4th max 8-hour	NS	1	0.087	0.093	0.088	0.083	0.09	0.095	0.09	0.092	0.106	0.091
	2nd daily max 1-hour	NS	1	0.103	0.107	0.1	0.105	0.111	0.113	0.103	0.111	0.121	0.108
PM <sub>10</sub>	90th percentile	Down	1	52	59	42	47	51	49	37	42	42	42
	weighted annual mean	NS	1	29.9	36	26.6	28.1	29.8	27.7	29	28.2	28.2	28.2
SO <sub>2</sub>	arithmetic mean	Down	1	0.01	0.009	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007
	2nd max 24-hour	NS	1	0.036	0.032	0.03	0.029	0.047	0.032	0.029	0.032	0.029	0.039
<b>SHREVEPORT-BOSSIER CITY, LA</b>													
O <sub>3</sub>	4th max 8-hour	NS	2	0.088	0.081	0.083	0.088	0.08	0.081	0.079	0.084	0.089	0.091
	2nd daily max 1-hour	NS	2	0.112	0.1	0.1	0.113	0.094	0.097	0.098	0.101	0.109	0.104
PM <sub>10</sub>	90th percentile	NS	1	33	48	36	37	36	43	29	35	35	35
	weighted annual mean	NS	1	23.3	28.4	23.8	21.8	23.6	23.7	21.9	22.5	22.5	22.5
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.004	0.004	0.002	0.001	0.002	0.002	0.002	0.002
	2nd max 24-hour	NS	1	0.006	0.009	0.013	0.011	0.008	0.004	0.004	0.007	0.01	0.006
<b>SIOUX CITY, IA-NE</b>													
PM <sub>10</sub>	90th percentile	NS	1	46	51	45	40	38	55	72	54	45	48
	weighted annual mean	NS	1	27.7	27.9	25.4	22.5	23.3	26.4	32.5	28.3	28	27.9
<b>SIOUX FALLS, SD</b>													
PM <sub>10</sub>	90th percentile	NS	2	41.5	39.5	39.5	27.5	38.5	39.5	31.5	35	35	35.5
	weighted annual mean	NS	2	23.2	22.6	22.8	17	22.7	21.65	20.55	21.2	21.6	21.6
<b>SOUTH BEND, IN</b>													
O <sub>3</sub>	4th max 8-hour	NS	3	0.082	0.086	0.081	0.076	0.086	0.094	0.09	0.089	0.091	0.088
	2nd daily max 1-hour	up	3	0.097	0.1	0.094	0.09	0.099	0.112	0.107	0.11	0.115	0.102
PM <sub>10</sub>	90th percentile	Down	2	52.5	49	38	36	39	42	34.5	29.5	36.5	34
	weighted annual mean	Down	2	30.8	29.65	23.05	23.75	27.1	21.7	20.1	17.2	20.65	20.3
<b>SPOKANE, WA</b>													
CO	2nd max 8-hour	Down	3	9.1	9.333	8.133	8	6.4	6.933	6.833	5.133	5.133	4.567
O <sub>3</sub>	4th max 8-hour	up	1	0.057	0.061	0.063	0.06	0.068	0.065	0.067	0.068	0.07	0.065
	2nd daily max 1-hour	NS	1	0.071	0.077	0.083	0.069	0.085	0.08	0.079	0.083	0.082	0.073
PM <sub>10</sub>	90th percentile	Down	4	62.5	58.5	57	60.75	52	44	43.5	40.75	43	41.75
	weighted annual mean	Down	4	37.125	33.1	34.125	32.15	30.375	24.45	26.65	24.45	24.525	23.7
<b>SPRINGFIELD, IL</b>													
CO	2nd max 8-hour	Down	1	4.4	4.3	4.5	3.9	3.1	3.2	3	2.1	1.9	2.4
O <sub>3</sub>	4th max 8-hour	Down	1	0.081	0.083	0.077	0.081	0.081	0.08	0.079	0.071	0.078	0.075
	2nd daily max 1-hour	NS	1	0.098	0.102	0.091	0.106	0.101	0.1	0.098	0.085	0.093	0.099
SO <sub>2</sub>	arithmetic mean	NS	1	0.007	0.008	0.006	0.006	0.006	0.006	0.006	0.006	0.007	0.006
	2nd max 24-hour	NS	1	0.054	0.048	0.043	0.04	0.05	0.062	0.061	0.043	0.061	0.059
<b>SPRINGFIELD, MO</b>													
CO	2nd max 8-hour	Down	1	7.2	6.9	6.2	5.3	5.9	4.1	3.3	4.6	4	3.1
NO <sub>2</sub>	arithmetic mean	up	1	0.008	0.008	0.01	0.011	0.013	0.012	0.011	0.011	0.012	0.013
O <sub>3</sub>	4th max 8-hour	up	2	0.058	0.063	0.058	0.069	0.072	0.079	0.074	0.066	0.071	0.078
	2nd daily max 1-hour	up	2	0.075	0.073	0.085	0.075	0.093	0.098	0.086	0.08	0.09	0.094
PM <sub>10</sub>	90th percentile	NS	3	36.333	27.333	30	29.667	28	27.667	26	24	30.667	30.333
	weighted annual mean	NS	3	21.6	18.233	18.933	17.4	17.4	16.633	17.9	15.7	17.967	17.967
SO <sub>2</sub>	arithmetic mean	NS	2	0.006	0.003	0.004	0.006	0.008	0.003	0.005	0.002	0.004	0.004
	2nd max 24-hour	NS	2	0.057	0.033	0.034	0.04	0.067	0.021	0.044	0.022	0.021	0.021
<b>SPRINGFIELD, MA</b>													
CO	2nd max 8-hour	NS	2	6.7	6.3	7.1	6.1	7.5	7.9	7.1	5.1	4.1	4.8
NO <sub>2</sub>	arithmetic mean	Down	2	0.018	0.017	0.016	0.016	0.019	0.015	0.016	0.015	0.013	0.014
O <sub>3</sub>	4th max 8-hour	NS	4	0.093	0.097	0.09	0.095	0.093	0.092	0.083	0.094	0.087	0.087
	2nd daily max 1-hour	NS	4	0.121	0.126	0.117	0.129	0.125	0.124	0.104	0.122	0.109	0.108
PM <sub>10</sub>	90th percentile	NS	5	39.2	42.2	34.4	39.6	40.4	36.2	35.4	34.2	38.8	38.4
	weighted annual mean	NS	5	23.06	23.4	21.5	22.2	24.44	20.7	22.22	22.08	21.28	23.4
SO <sub>2</sub>	arithmetic mean	Down	3	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.005	0.005	0.005
	2nd max 24-hour	Down	3	0.033	0.031	0.034	0.023	0.048	0.023	0.024	0.021	0.02	0.02

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>STAMFORD-NORWALK, CT</b>												
CO	2nd max 8-hour	Down	1	6.3	6	5.5	5.2	6.2	5.4	4.1	5.1	3.8
O <sub>3</sub>	4th max 8-hour	NS	1	0.108	0.11	0.082	0.101	0.107	0.102	0.093	0.101	0.089
PM <sub>10</sub>	2nd daily max 1-hour	NS	1	0.144	0.147	0.111	0.145	0.155	0.136	0.121	0.142	0.113
	90th percentile	NS	3	48.667	51	36.667	35	50	41.333	39.333	39.333	35.333
	weighted annual mean	NS	3	30.1	32	24.067	23.3	28.133	24.733	24.5	25.733	23.833
SO <sub>2</sub>	arithmetic mean	Down	1	0.005	0.006	0.005	0.005	0.006	0.004	0.005	0.004	0.004
	2nd max 24-hour	NS	1	0.024	0.025	0.022	0.02	0.028	0.023	0.019	0.025	0.025
<b>STEUBENVILLE-WEIRTON, OH-WV</b>												
CO	2nd max 8-hour	Down	3	11.467	9.267	6.933	7.233	8.667	5.867	5	4.8	6.7
Pb	max quarterly mean	Down	2	0.065	0.083	0.148	0.067	0.082	0.055	0.05	0.029	0.029
NO <sub>2</sub>	arithmetic mean	NS	1	0.02	0.021	0.019	0.017	0.02	0.02	0.02	0.017	0.017
O <sub>3</sub>	4th max 8-hour	NS	2	0.075	0.091	0.076	0.081	0.083	0.094	0.08	0.081	0.083
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.092	0.114	0.089	0.101	0.103	0.112	0.097	0.093	0.094
	90th percentile	Down	9	67.778	69.556	63.889	62.111	65.667	60.556	55.222	48.667	53.778
	weighted annual mean	Down	9	24.544	26.6	23.822	22.778	23.133	22.756	21.133	18.3	19.322
SO <sub>2</sub>	arithmetic mean	Down	7	0.024	0.022	0.018	0.019	0.017	0.011	0.011	0.011	0.011
	2nd max 24-hour	NS	7	0.085	0.08	0.076	0.083	0.088	0.047	0.048	0.051	0.047
<b>STOCKTON-LODI, CA</b>												
CO	2nd max 8-hour	Down	2	10.85	9.65	5.85	5.8	6.95	4.8	6	3.65	5.25
Pb	max quarterly mean	Down	1	0.042	0.039	0.024	0.026	0.016	0.015	0.023	0.014	0.014
NO <sub>2</sub>	arithmetic mean	NS	1	0.026	0.025	0.024	0.024	0.024	0.022	0.023	0.022	0.023
O <sub>3</sub>	4th max 8-hour	NS	2	0.086	0.087	0.085	0.083	0.086	0.087	0.079	0.073	0.085
PM <sub>10</sub>	2nd daily max 1-hour	NS	2	0.115	0.11	0.11	0.11	0.12	0.125	0.101	0.094	0.108
	90th percentile	Down	2	75.5	93.5	60	74.5	59	51	37.5	45.5	54.5
	weighted annual mean	Down	2	45.25	48.6	39.35	36.35	35	31.25	26.05	28.7	28.05
<b>SYRACUSE, NY</b>												
CO	2nd max 8-hour	Down	1	6.8	8.4	7.5	5.6	6.5	3.3	3.9	4	3
O <sub>3</sub>	4th max 8-hour	NS	2	0.092	0.092	0.083	0.083	0.077	0.086	0.073	0.077	0.082
	2nd daily max 1-hour	Down	2	0.103	0.103	0.096	0.097	0.095	0.1	0.085	0.096	0.093
PM <sub>10</sub>	90th percentile	NS	2	48.5	50.5	46.5	41	40.5	35.5	32	38	42
	weighted annual mean	NS	2	28.05	29.25	27.25	24.05	22.05	21	22.05	21.65	24.15
SO <sub>2</sub>	arithmetic mean	NS	2	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002
	2nd max 24-hour	NS	2	0.014	0.014	0.012	0.018	0.02	0.016	0.014	0.017	0.01
<b>TACOMA, WA</b>												
CO	2nd max 8-hour	NS	1	8	8.7	8.9	5.9	6	6.3	6.3	6.8	5.8
O <sub>3</sub>	4th max 8-hour	NS	1	0.087	0.077	0.081	0.068	0.073	0.074	0.077	0.066	0.085
	2nd daily max 1-hour	NS	1	0.127	0.094	0.097	0.1	0.112	0.089	0.097	0.083	0.126
PM <sub>10</sub>	90th percentile	Down	4	55.75	52.25	54.5	50.75	39.75	38.5	40.25	45	32.75
	weighted annual mean	Down	4	30.575	31.025	32.6	28.025	23.125	22.7	21.95	23.35	18.65
SO <sub>2</sub>	arithmetic mean	Down	2	0.008	0.008	0.009	0.009	0.007	0.006	0.006	0.006	0.005
	2nd max 24-hour	Down	2	0.026	0.023	0.03	0.025	0.021	0.02	0.024	0.023	0.019
<b>TAMPA-ST. PETERSBURG-CLEARWATER, FL</b>												
CO	2nd max 8-hour	Down	6	3.817	2.85	2.867	2.583	2.2	2.75	2.533	2.4	2.467
Pb	max quarterly mean	Down	3	0.763	0.756	0.45	0.23	0.296	0.254	0.246	0.214	0.175
NO <sub>2</sub>	arithmetic mean	NS	2	0.013	0.012	0.011	0.011	0.01	0.011	0.011	0.011	0.013
O <sub>3</sub>	4th max 8-hour	up	7	0.08	0.07	0.074	0.071	0.075	0.074	0.074	0.08	0.089
	2nd daily max 1-hour	NS	7	0.106	0.097	0.094	0.091	0.093	0.096	0.098	0.099	0.111
PM <sub>10</sub>	90th percentile	NS	5	40.2	41.4	41.6	39	39	38	40.4	42.6	40.4
	weighted annual mean	NS	5	27.26	27.74	26.72	27.52	25.96	25.28	26.86	27.44	27.4
SO <sub>2</sub>	arithmetic mean	NS	8	0.006	0.005	0.005	0.005	0.005	0.004	0.005	0.005	0.005
	2nd max 24-hour	Down	8	0.03	0.029	0.027	0.029	0.031	0.025	0.024	0.026	0.027
<b>TERRE HAUTE, IN</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.087	0.088	0.069	0.074	0.094	0.085	0.098	0.083	0.084
	2nd daily max 1-hour	NS	1	0.105	0.1	0.081	0.088	0.106	0.099	0.112	0.096	0.099
PM <sub>10</sub>	90th percentile	Down	5	54.8	50	43.4	45	40.2	48.2	36.6	39	37.8
	weighted annual mean	Down	5	32.82	29.58	26.08	25.48	25.14	26.86	22.24	23.12	23.36
SO <sub>2</sub>	arithmetic mean	NS	2	0.011	0.011	0.007	0.009	0.01	0.007	0.009	0.006	0.007
	2nd max 24-hour	Down	2	0.038	0.037	0.033	0.039	0.039	0.029	0.033	0.023	0.027
<b>TEXARKANA, TX-TEXARKANA, AR</b>												
PM <sub>10</sub>	90th percentile	NS	1	36	39	37	35	36	45	39	34	34
	weighted annual mean	NS	1	24.3	22.4	23.3	21.9	22.9	25.7	23.4	22.4	22.4
<b>TOLEDO, OH</b>												
O <sub>3</sub>	4th max 8-hour	NS	3	0.085	0.086	0.079	0.083	0.088	0.088	0.09	0.083	0.083
	2nd daily max 1-hour	NS	3	0.1	0.108	0.091	0.108	0.109	0.107	0.108	0.099	0.1
SO <sub>2</sub>	arithmetic mean	NS	2	0.006	0.006	0.006	0.007	0.007	0.004	0.004	0.004	0.007
	2nd max 24-hour	NS	2	0.033	0.022	0.029	0.028	0.047	0.025	0.032	0.019	0.019
<b>TOPEKA, KS</b>												
Pb	max quarterly mean	Down	3	0.012	0.011	0.009	0.009	0.008	0.009	0.009	0.008	0.008
PM <sub>10</sub>	90th percentile	NS	1	58	39	47	40	46	54	41	44	44
	weighted annual mean	NS	1	32.5	25.5	28.3	27.1	29.2	34.1	27.1	28	28

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>TRENTON, NJ</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.105	0.122	0.11	0.102	0.103	0.107	0.09	0.106	0.095
	2nd daily max 1-hour	Down	1	0.142	0.153	0.151	0.135	0.14	0.132	0.121	0.126	0.113
PM <sub>10</sub>	90th percentile	Down	1	51	50	43	43	52	38	40	40	35
	weighted annual mean	Down	1	29.2	31.1	25.6	26.6	29.1	23.9	26.7	27	23.9
<b>TUSCON, AZ</b>												
CO	2nd max 8-hour	Down	4	4.55	4.5	4.725	4.638	4.575	4.375	4.075	3.7	3.325
	arithmetic mean	NS	1	0.019	0.018	0.016	0.018	0.019	0.019	0.018	0.018	0.017
O <sub>3</sub>	4th max 8-hour	NS	5	0.073	0.072	0.07	0.075	0.073	0.077	0.073	0.071	0.069
	2nd daily max 1-hour	NS	5	0.093	0.084	0.087	0.09	0.088	0.094	0.086	0.085	0.088
PM <sub>10</sub>	90th percentile	NS	10	49.8	38.8	36.4	32.8	32.7	40.9	36.1	38.3	39.4
	weighted annual mean	NS	10	32.55	25.91	24.05	22.26	22.12	26.22	25.35	25.79	25.88
SO <sub>2</sub>	arithmetic mean	NS	1	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002
	2nd max 24-hour	Down	1	0.007	0.007	0.006	0.005	0.004	0.004	0.004	0.004	0.005
<b>TULSA, OK</b>												
CO	2nd max 8-hour	NS	2	4.7	4.6	5.1	3.85	3.85	3.35	5.25	5.65	3.9
Pb	max quarterly mean	Down	1	0.108	0.214	0.102	0.203	0.098	0.091	0.114	0.015	0.015
NO <sub>2</sub>	arithmetic mean	NS	2	0.011	0.013	0.013	0.013	0.013	0.01	0.012	0.012	0.014
O <sub>3</sub>	4th max 8-hour	NS	3	0.09	0.086	0.077	0.075	0.086	0.095	0.086	0.08	0.089
	2nd daily max 1-hour	NS	3	0.116	0.111	0.095	0.108	0.111	0.119	0.11	0.106	0.11
PM <sub>10</sub>	90th percentile	NS	5	42	41.4	38.6	40	42	44.2	40	37.8	37.8
	weighted annual mean	NS	5	23.9	25.02	23.52	25.9	25.58	26.24	26.22	24.18	24.18
SO <sub>2</sub>	arithmetic mean	NS	1	0.012	0.01	0.011	0.006	0.004	0.008	0.008	0.008	0.01
	2nd max 24-hour	NS	1	0.056	0.047	0.053	0.026	0.025	0.034	0.042	0.028	0.034
<b>TUSCALOOSA, AL</b>												
PM <sub>10</sub>	90th percentile	NS	1	61	47	38	43	41	48	41	41	44
	weighted annual mean	NS	1	31.8	27.5	26	26	25.9	27.4	26.2	25.2	28.3
<b>UTICA-ROME, NY</b>												
O <sub>3</sub>	4th max 8-hour	NS	2	0.08	0.082	0.078	0.067	0.072	0.077	0.063	0.073	0.073
	2nd daily max 1-hour	NS	2	0.097	0.096	0.092	0.085	0.085	0.092	0.075	0.085	0.088
PM <sub>10</sub>	90th percentile	Down	2	35	35	32	30	28.5	26	27.5	26	29.5
	weighted annual mean	NS	2	20.65	20.65	18.9	16.3	16.25	15.05	15.95	15.1	16.6
SO <sub>2</sub>	arithmetic mean	NS	1	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001
	2nd max 24-hour	NS	1	0.006	0.006	0.006	0.012	0.012	0.008	0.009	0.006	0.005
<b>VALLEJO-FAIRFIELD-NAPA, CA</b>												
CO	2nd max 8-hour	Down	2	6.85	6.6	5.55	5.55	5.2	4.2	4.15	4.4	4.2
O <sub>3</sub>	4th max 8-hour	NS	3	0.067	0.067	0.065	0.071	0.068	0.079	0.074	0.06	0.071
	2nd daily max 1-hour	NS	3	0.093	0.103	0.093	0.1	0.096	0.108	0.104	0.082	0.106
PM <sub>10</sub>	90th percentile	Down	1	53	69	48	36	32	32	25	22	33
	weighted annual mean	Down	1	26.6	40.6	24.4	22.5	21.2	19	17.3	16.1	17.2
<b>VENTURA, CA</b>												
CO	2nd max 8-hour	Down	2	3.25	3.05	2.3	2.45	2.75	3.15	2.35	2.35	2.25
Pb	max quarterly mean	Down	1	0.02	0.032	0.014	0.01	0.01	0.01	0.008	0.008	0.006
NO <sub>2</sub>	arithmetic mean	Down	4	0.016	0.015	0.014	0.014	0.014	0.014	0.013	0.012	0.011
O <sub>3</sub>	4th max 8-hour	Down	6	0.098	0.104	0.099	0.089	0.095	0.095	0.099	0.085	0.087
	2nd daily max 1-hour	Down	6	0.128	0.136	0.128	0.123	0.126	0.126	0.127	0.11	0.116
PM <sub>10</sub>	90th percentile	Down	5	55.8	55.6	48.6	46.8	46.6	48.6	43.8	48.2	40.6
	weighted annual mean	Down	5	34.44	35.9	31.2	27.36	30.02	28.12	27.52	30.22	23.24
<b>VICTORIA, TX</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.058	0.086	0.078	0.081	0.075	0.087	0.071	0.078	0.073
	2nd daily max 1-hour	NS	1	0.099	0.099	0.099	0.098	0.094	0.104	0.087	0.092	0.093
<b>VINELAND-MILLVILLE-BRIDGETON, NJ</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.11	0.107	0.087	0.103	0.086	0.091	0.086	0.104	0.098
	2nd daily max 1-hour	NS	1	0.125	0.124	0.103	0.121	0.102	0.126	0.105	0.115	0.117
SO <sub>2</sub>	arithmetic mean	Down	1	0.007	0.007	0.006	0.006	0.005	0.004	0.005	0.004	0.004
	2nd max 24-hour	Down	1	0.024	0.023	0.021	0.019	0.032	0.016	0.016	0.018	0.012
<b>VISALIA-TULARE-PORTERVILLE, CA</b>												
CO	2nd max 8-hour	Down	1	5	5.3	4.3	3.5	4	4.2	3.9	3.5	3.6
NO <sub>2</sub>	arithmetic mean	NS	1	0.021	0.022	0.02	0.023	0.023	0.023	0.018	0.019	0.017
O <sub>3</sub>	4th max 8-hour	NS	2	0.099	0.098	0.1	0.107	0.108	0.1	0.104	0.096	0.102
	2nd daily max 1-hour	NS	2	0.116	0.116	0.125	0.138	0.137	0.118	0.131	0.114	0.116
PM <sub>10</sub>	90th percentile	Down	2	128.5	106.5	82.5	89.5	62.5	72	70	63	63.5
	weighted annual mean	Down	2	68.5	61	50.75	48.7	42.1	44.3	40.25	40.4	38.3
<b>WASHINGTON, DC-MD-VA-WV</b>												
CO	2nd max 8-hour	Down	8	4.7	4.6	4.088	4.675	4.15	4.163	3.725	3.788	3.113
Pb	max quarterly mean	Down	5	0.049	0.032	0.019	0.019	0.019	0.021	0.013	0.01	0.013
NO <sub>2</sub>	arithmetic mean	Down	7	0.024	0.024	0.024	0.024	0.023	0.021	0.021	0.021	0.021
O <sub>3</sub>	4th max 8-hour	NS	13	0.089	0.097	0.086	0.096	0.088	0.095	0.083	0.091	0.099
	2nd daily max 1-hour	NS	13	0.114	0.122	0.107	0.12	0.116	0.12	0.106	0.116	0.119
PM <sub>10</sub>	90th percentile	Down	14	40.857	40.214	36.286	37.214	38.786	36.214	33.5	33.071	35.5
	weighted annual mean	Down	14	25.45	25.55	23.086	22.35	21.236	21.707	20.336	20.207	20.893
SO <sub>2</sub>	arithmetic mean	Down	5	0.007	0.007	0.008	0.008	0.007	0.006	0.007	0.007	0.007
	2nd max 24-hour	NS	5	0.026	0.026	0.029	0.026	0.029	0.019	0.031	0.022	0.02

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area	Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>WATERBURY, CT</b>												
PM <sub>10</sub>	90th percentile weighted annual mean	Down	2	56.5	48.5	43.5	44.5	43	40	46.5	37.5	32.5
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	2	34	29.7	23.15	23.55	26.15	24.1	25.95	23.65	22
		Down	1	0.01	0.009	0.007	0.006	0.007	0.005	0.005	0.005	0.005
		Down	1	0.042	0.038	0.029	0.021	0.03	0.019	0.022	0.02	0.021
<b>WATERLOO-CEDAR FALLS, IA</b>												
PM <sub>10</sub>	90th percentile weighted annual mean	Down	1	57	57	63	48	45	52	48	47	47
SO <sub>2</sub>		Down	1	34.7	34.7	34.3	31.2	28.7	35.5	31.8	31.3	29.9
<b>WAUSAU, WI</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.081	0.081	0.081	0.06	0.064	0.075	0.07	0.069	0.077
	2nd daily max 1-hour	NS	1	0.086	0.086	0.086	0.081	0.077	0.088	0.079	0.08	0.098
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	1	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.003
		NS	1	0.03	0.03	0.024	0.039	0.024	0.022	0.015	0.013	0.031
<b>WEST PALM BEACH-BOCA RATON, FL</b>												
CO	2nd max 8-hour	NS	1	2.7	3.1	3.7	3.1	2.8	2.8	2.5	3.6	2.5
NO <sub>2</sub>	arithmetic mean	NS	1	0.014	0.012	0.011	0.013	0.012	0.012	0.012	0.012	0.013
O <sub>3</sub>	4th max 8-hour	NS	2	0.066	0.062	0.048	0.077	0.071	0.064	0.064	0.064	0.077
	2nd daily max 1-hour	NS	2	0.092	0.081	0.067	0.117	0.084	0.082	0.088	0.082	0.096
PM <sub>10</sub>	90th percentile weighted annual mean	NS	2	27	27.5	30	29	24.5	24.5	27.5	29	29
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	1	18.95	18.45	19.9	18.85	18.1	17.6	18.45	19.8	20.35
		NS	1	0.002	0.002	0.003	0.004	0.003	0.002	0.002	0.002	0.001
			1	0.007	0.012	0.01	0.028	0.016	0.019	0.014	0.013	0.013
<b>WHEELING, WV-OH</b>												
CO	2nd max 8-hour	Down	1	7.1	5.6	5.6	4.1	4.6	5	3.5	3.1	3.5
O <sub>3</sub>	4th max 8-hour	NS	1	0.08	0.089	0.075	0.077	0.078	0.089	0.087	0.082	0.087
	2nd daily max 1-hour	NS	1	0.111	0.108	0.096	0.11	0.095	0.104	0.105	0.11	0.104
PM <sub>10</sub>	90th percentile weighted annual mean	Down	2	50	52.5	51.5	51	49	45.5	42	40.5	46
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	2	29.5	30.65	30.4	29.35	27.7	28.25	27.6	23.75	24.9
		Down	3	0.02	0.02	0.018	0.018	0.015	0.01	0.011	0.01	0.011
		Down	3	0.064	0.074	0.077	0.075	0.065	0.055	0.058	0.043	0.045
<b>WICHITA, KS</b>												
CO	2nd max 8-hour	Down	3	5.933	5.917	5.633	5	4.933	5.233	5.8	4.8	4.833
Pb	max quarterly mean	Down	5	0.017	0.02	0.012	0.014	0.008	0.01	0.011	0.009	0.009
O <sub>3</sub>	4th max 8-hour	NS	2	0.079	0.076	0.067	0.06	0.07	0.073	0.071	0.079	0.081
	2nd daily max 1-hour	NS	2	0.095	0.09	0.078	0.075	0.085	0.095	0.093	0.093	0.093
PM <sub>10</sub>	90th percentile weighted annual mean	NS	4	48.75	51	52.5	55.5	49.75	50.75	42.5	40	40.5
		Down	4	27.7	31.35	32.25	31.425	26.4	27.1	24.85	22.45	24.2
			3	0.025	0.025	0.029	0.025	0.042	0.027	0.028	0.028	0.021
<b>WILLIAMSPORT, PA</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.071	0.081	0.073	0.075	0.069	0.073	0.07	0.076	0.073
	2nd daily max 1-hour	NS	1	0.088	0.101	0.092	0.088	0.079	0.091	0.082	0.086	0.097
PM <sub>10</sub>	90th percentile weighted annual mean	NS	1	50	60	36	47	52	49	36	40	40
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	NS	1	26	30.7	23.8	23.9	27.8	27.6	25.1	25.6	25.6
		NS	1	0.006	0.007	0.007	0.006	0.006	0.006	0.006	0.008	0.005
		NS	1	0.025	0.025	0.029	0.025	0.042	0.027	0.028	0.028	0.021
<b>WILMINGTON-NEWARK, DE-MD</b>												
CO	2nd max 8-hour	NS	1	5.4	4	4.1	3.8	4.3	4.6	3.6	4.5	3.1
NO <sub>2</sub>	arithmetic mean	NS	1	0.017	0.017	0.017	0.019	0.019	0.017	0.019	0.018	0.016
O <sub>3</sub>	4th max 8-hour	NS	3	0.098	0.1	0.094	0.101	0.094	0.112	0.088	0.104	0.095
	2nd daily max 1-hour	NS	3	0.123	0.121	0.118	0.141	0.119	0.142	0.111	0.136	0.122
PM <sub>10</sub>	90th percentile weighted annual mean	Down	2	47.5	44.75	39	42.5	52	44.5	41.5	42.5	40.5
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	2	30.05	27.65	24.45	24.8	29.45	27.8	25.4	25.4	24
		Down	3	0.014	0.013	0.014	0.013	0.012	0.011	0.01	0.008	0.008
		Down	3	0.053	0.046	0.054	0.047	0.048	0.057	0.045	0.041	0.032
<b>WORCESTER, MA-CT</b>												
CO	2nd max 8-hour	Down	1	6	7.2	8	6.1	5.9	4.2	5.3	3.4	3.3
NO <sub>2</sub>	arithmetic mean	Down	1	0.022	0.023	0.024	0.028	0.025	0.021	0.019	0.019	0.02
O <sub>3</sub>	4th max 8-hour	NS	1	0.097	0.097	0.097	0.092	0.097	0.096	0.074	0.092	0.097
	2nd daily max 1-hour	Down	1	0.125	0.125	0.125	0.155	0.125	0.118	0.091	0.106	0.124
PM <sub>10</sub>	90th percentile weighted annual mean	NS	2	41	37.667	34.333	37	36	31.5	33.5	31.5	32.5
SO <sub>2</sub>	arithmetic mean 2nd max 24-hour	Down	1	22.95	21.267	19.583	19.5	19.9	19.45	20.25	19.55	19.2
		Down	1	0.008	0.009	0.007	0.007	0.008	0.006	0.005	0.004	0.005
		Down	1	0.034	0.029	0.033	0.025	0.024	0.023	0.021	0.021	0.017
<b>YAKIMA, WA</b>												
PM <sub>10</sub>	90th percentile weighted annual mean	Down	2	61.5	80.5	59.5	63	54.5	45.5	58.5	59	42.5
SO <sub>2</sub>		Down	2	33.1	40.15	32.45	34.85	29.1	23.55	30.375	31.6	25.75
<b>YOLO, CA</b>												
O <sub>3</sub>	4th max 8-hour	NS	1	0.082	0.073	0.085	0.076	0.076	0.083	0.087	0.068	0.087
	2nd daily max 1-hour	NS	1	0.1	0.105	0.11	0.09	0.097	0.108	0.113	0.092	0.109
PM <sub>10</sub>	90th percentile weighted annual mean	Down	1	81	81	63	62	46	61	40	37	42
SO <sub>2</sub>		Down	1	46.4	46.4	34.7	29.2	29.8	30.1	24.3	24.6	21.7

**Table A-16.** Metropolitan Statistical Area Air Quality Trends, 1990–1999 (continued)

Metropolitan Statistical Area		Trend	#Trend Sites	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>YORK, PA</b>													
CO	2nd max 8-hour	Down	1	4.4	3.7	3.6	3.3	3.9	2.7	2.8	3.4	2.4	2.4
Pb	max quarterly mean	NS	1	0.051	0.051	0.046	0.044	0.042	0.04	0.065	0.044	0.049	0.049
NO <sub>2</sub>	arithmetic mean	Down	1	0.022	0.021	0.02	0.022	0.024	0.021	0.021	0.019	0.019	0.019
O <sub>3</sub>	4th max 8-hour	NS	1	0.097	0.1	0.079	0.09	0.082	0.086	0.081	0.094	0.095	0.094
	2nd daily max 1-hour	NS	1	0.121	0.114	0.101	0.112	0.115	0.097	0.098	0.109	0.112	0.121
PM <sub>10</sub>	90th percentile	NS	1	56	60	44	52	51	56	46	49	49	49
	weighted annual mean	NS	1	29.7	32.2	27	30.5	31.7	29.7	28.4	31.2	31.2	31.2
SO <sub>2</sub>	arithmetic mean	NS	1	0.007	0.008	0.007	0.008	0.009	0.006	0.007	0.009	0.008	0.007
	2nd max 24-hour	NS	1	0.023	0.02	0.034	0.032	0.041	0.02	0.022	0.026	0.023	0.019
<b>YOUNGSTOWN-WARREN, OH</b>													
O <sub>3</sub>	4th max 8-hour	NS	3	0.09	0.096	0.092	0.085	0.083	0.096	0.09	0.089	0.099	0.094
	2nd daily max 1-hour	NS	3	0.105	0.111	0.106	0.106	0.096	0.11	0.104	0.105	0.115	0.108
PM <sub>10</sub>	90th percentile	Down	9	53	54.889	48.556	49.333	49	48.222	39.333	42.778	46.667	44
	weighted annual mean	Down	9	31.267	33.022	28.544	27.389	29.033	28.089	26.011	25.389	27.267	25.867
SO <sub>2</sub>	arithmetic mean	Down	2	0.016	0.016	0.013	0.011	0.011	0.01	0.009	0.008	0.008	0.008
	2nd max 24-hour	Down	2	0.053	0.048	0.056	0.064	0.051	0.038	0.044	0.037	0.03	0.034
<b>YUBA CITY, CA</b>													
CO	2nd max 8-hour	Down	1	5.8	5.8	5.8	5	5.6	4.1	4.1	3.9	3.9	4.2
NO <sub>2</sub>	arithmetic mean	Down	1	0.017	0.017	0.017	0.018	0.016	0.014	0.012	0.014	0.013	0.014
O <sub>3</sub>	4th max 8-hour	NS	2	0.076	0.079	0.088	0.081	0.082	0.087	0.086	0.073	0.087	0.084
	2nd daily max 1-hour	NS	2	0.1	0.1	0.11	0.11	0.099	0.107	0.105	0.093	0.103	0.105
PM <sub>10</sub>	90th percentile	NS	1	60	73	57	59	51	68	50	48	44	68
	weighted annual mean	Down	1	38.5	38.5	34.3	30.4	34.1	32.5	29.2	28.6	23.1	38.4

CO = Highest second maximum non-overlapping 8-hour concentration (*Applicable NAAQS is 9 ppm*)Pb = Highest quarterly maximum concentration (*Applicable NAAQS is 1.5 µg/m<sup>3</sup>*)NO<sub>2</sub> = Highest arithmetic mean concentration (*Applicable NAAQS is 0.053 ppm*)O<sub>3</sub> (1-hr) = Highest second daily maximum 1-hour concentration (*Applicable NAAQS is 0.12 ppm*)O<sub>3</sub> (8-hr) = Highest fourth daily maximum 8-hour concentration (*Applicable NAAQS is 0.08 ppm*)PM<sub>10</sub> = Highest second maximum 24-hour concentration (*Applicable NAAQS is 150 µg/m<sup>3</sup>*)SO<sub>2</sub> = Highest second maximum 24-hour concentration (*Applicable NAAQS is 0.14 ppm*)

ppm = Units are parts per million

µg/m<sup>3</sup> = Units are micrograms per cubic meter

**Table A-17.** Number of Days with AQI Values Greater Than 100 at Trend Sites, 1990–1999, and All Sites in 1999

Metropolitan Statistical Area	# of Trend Sites											Total Sites	AQI # of > 100 Sites
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999
AKRON, OH	5	9	30	8	10	8	12	11	6	14	20	6	20
ALBANY-SCHENECTADY-TROY, NY	10	4	9	5	5	6	3	4	3	2	6	10	6
ALBUQUERQUE, NM	21	8	5	0	0	1	0	0	0	0	1	21	2
ALLENTOWN-BETHLEHEM-EASTON, PA	5	10	14	3	6	3	9	6	13	18	20	9	23
ATLANTA, GA	10	42	23	20	36	15	35	25	31	50	61	18	69
AUSTIN-SAN MARCOS, TX	1	4	3	1	2	4	10	0	0	5	8	3	19
BAKERSFIELD, CA	8	99	113	100	97	98	105	109	55	76	88	14	94
BALTIMORE, MD	17	29	50	23	48	41	36	28	30	51	40	20	40
BATON ROUGE, LA	7	28	11	5	6	7	15	7	8	14	17	10	26
BERGEN-PASSAIC, NJ	7	8	11	2	3	5	11	3	5	0	0	7	0
BIRMINGHAM, AL	14	28	5	12	10	6	32	15	8	23	27	14	27
BOSTON, MA-NH	24	7	13	9	6	10	8	2	8	7	5	24	9
BUFFALO-NIAGARA FALLS, NY	20	7	9	3	1	4	6	3	1	13	8	20	8
CHARLESTON-NORTH CHARLESTON, SC	9	1	2	0	2	2	1	3	3	3	5	9	5
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	12	31	12	11	23	9	13	18	26	48	34	24	42
CHICAGO, IL	45	4	22	4	3	8	21	6	9	7	12	51	12
CINCINNATI, OH-KY-IN	19	12	19	1	6	16	19	10	11	14	12	23	27
CLEVELAND-LORAIN-ELYRIA, OH	27	10	23	11	13	23	24	18	11	20	18	40	23
COLUMBUS, OH	9	4	17	5	7	10	15	16	8	19	20	12	25
DALLAS, TX	9	24	2	12	14	27	36	12	20	28	23	9	35
DAYTON-SPRINGFIELD, OH	10	13	12	2	11	14	11	18	9	19	19	13	20
DENVER, CO	22	9	6	11	3	1	2	0	0	5	1	28	5
DETROIT, MI	29	11	28	8	5	11	14	13	12	17	15	29	15
EL PASO, TX	19	19	7	10	7	11	8	7	4	6	6	24	7
FORT LAUDERDALE, FL	15	1	0	2	4	1	1	1	0	1	1	18	1
FORT WORTH-ARLINGTON, TX	5	16	20	7	9	31	28	14	14	17	19	5	19
FRESNO, CA	12	62	83	69	59	55	61	70	75	67	81	15	83
GARY, IN	15	2	8	5	0	6	17	11	12	9	10	18	12
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	8	10	26	6	3	12	17	7	8	13	20	9	21
GREENSBORO—WINSTON-SALEM—HIGH POINT, NC	9	12	5	2	20	7	6	6	13	25	20	15	29
GREENVILLE-SPARTANBURG-ANDERSON, SC	5	2	3	5	9	5	8	7	10	28	19	7	19
HARRISBURG-LEBANON-CARLISLE, PA	6	10	21	1	15	12	13	3	9	22	17	6	17
HARTFORD, CT	15	13	23	15	14	18	14	5	16	10	18	15	18
HONOLULU, HI	10	0	0	0	0	0	0	0	0	0	0	14	0
HOUSTON, TX	23	51	36	32	28	38	66	26	47	38	50	23	54
INDIANAPOLIS, IN	27	9	12	7	9	22	19	13	12	19	21	32	26
JACKSONVILLE, FL	14	3	0	2	3	2	1	1	4	10	3	14	3
JERSEY CITY, NJ	7	15	26	11	19	17	18	5	9	7	17	7	17
KANSAS CITY, MO-KS	21	2	11	1	4	10	22	10	18	15	5	21	5
KNOXVILLE, TN	15	23	10	7	25	16	24	20	36	54	59	18	62
LAS VEGAS, NV-AZ	5	4	0	1	2	2	0	2	0	0	0	26	7
LITTLE ROCK-NORTH LITTLE ROCK, AR	7	1	3	0	2	2	7	1	1	2	6	7	6
LOS ANGELES-LONG BEACH, CA	38	173	168	175	134	139	113	94	60	56	27	38	27
LOUISVILLE, KY-IN	20	10	15	2	23	27	22	11	14	27	40	26	44
MEMPHIS, TN-AR-MS	12	24	9	14	15	10	21	19	17	27	36	14	36
MIAMI, FL	12	1	1	3	6	1	2	1	3	8	5	12	5
MIDDLESEX-SOMERSET-HUNTERDON, NJ	3	24	24	8	13	9	16	8	18	21	23	5	26
MILWAUKEE-WAUKESHA, WI	18	8	24	3	4	9	14	5	4	10	13	22	18

**Table A-17.** Number of Days with AQI Values Greater Than 100 at Trend Sites, 1990–1999, and All Sites in 1999 (continued)

Metropolitan Statistical Area	# of Trend Sites											Total # of Sites	AQI # of > 100 Sites 1999
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
MINNEAPOLIS-ST. PAUL, MN-WI	20	4	2	1	0	2	5	0	0	1	0	36	0
MONMOUTH-OCEAN, NJ	4	21	20	11	24	13	20	17	21	31	27	4	27
NASHVILLE, TN	16	29	12	6	18	21	26	22	20	30	33	21	45
NASSAU-SUFFOLK, NY	7	20	25	7	17	15	10	8	12	11	18	7	18
NEW HAVEN-MERIDEN, CT	9	17	29	10	17	14	14	8	19	10	16	9	16
NEW ORLEANS, LA	10	6	2	5	6	8	20	8	7	7	18	10	18
NEW YORK, NY	29	36	49	10	19	21	19	15	23	17	24	30	27
NEWARK, NJ	12	23	35	10	13	13	20	12	13	23	21	12	21
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS, VA-NC	10	8	7	8	19	6	6	4	17	15	16	12	16
OAKLAND, CA	18	4	4	3	4	3	12	11	0	11	5	29	6
OKLAHOMA CITY, OK	10	4	4	2	2	5	13	2	4	7	6	10	6
OMAHA, NE-IA	9	1	0	0	1	1	1	1	0	5	5	12	5
ORANGE COUNTY, CA	11	45	35	35	25	15	9	9	3	6	1	12	1
ORLANDO, FL	11	4	1	4	4	3	1	1	4	11	4	13	4
PHILADELPHIA, PA-NJ	36	39	49	24	51	26	30	22	32	37	32	44	32
PHOENIX-MESA, AZ	25	12	11	13	16	10	22	17	12	17	12	51	37
PITTSBURGH, PA	42	19	21	9	13	19	25	11	21	39	23	42	26
PONCE, PR	1	0	0	0	0	0	0	0	0	0	0	1	0
PORTLAND-VANCOUVER, OR-WA	15	11	9	6	0	2	2	6	0	3	2	15	2
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	9	13	20	5	7	7	11	4	10	4	7	12	13
RALEIGH-DURHAM-CHAPEL HILL, NC	5	15	5	0	11	2	1	1	13	21	26	17	29
RICHMOND-PETERSBURG, VA	11	6	18	8	30	13	19	5	21	28	25	11	25
RIVERSIDE-SAN BERNARDINO, CA	36	159	154	174	168	149	124	119	105	95	93	47	97
ROCHESTER, NY	8	5	16	2	0	1	6	0	6	4	9	8	9
SACRAMENTO, CA	20	61	46	51	20	36	41	42	15	27	38	33	48
ST. LOUIS, MO-IL	55	23	32	15	9	32	34	20	15	23	29	55	29
SALT LAKE CITY-OGDEN, UT	13	5	20	9	5	12	4	8	1	12	2	24	5
SAN ANTONIO, TX	4	4	3	1	3	4	18	3	3	6	9	4	9
SAN DIEGO, CA	23	96	67	66	58	46	48	31	14	33	16	27	17
SAN FRANCISCO, CA	9	0	0	0	0	0	2	0	0	0	0	11	0
SAN JOSE, CA	8	7	11	3	4	2	10	7	0	5	2	9	4
SAN JUAN-BAYAMON, PR	11	0	0	0	0	0	0	1	2	1	1	21	3
SCRANTON-WILKES-BARRE-HAZLETON, PA	11	9	17	3	10	7	12	4	11	7	12	11	12
SEATTLE-BELLEVUE-EVERETT, WA	17	9	4	3	0	3	0	6	1	3	1	24	1
SPRINGFIELD, MA	13	13	15	12	13	12	9	5	10	7	10	13	10
SYRACUSE, NY	7	1	12	2	4	1	5	0	2	3	4	7	4
TACOMA, WA	8	5	1	2	0	2	0	1	0	4	0	9	0
TAMPA-ST. PETERSBURG-CLEARWATER, FL	26	6	1	2	1	3	2	3	4	11	9	40	9
TOLEDO, OH	5	3	6	2	7	9	9	11	4	5	4	6	9
TUSCON, AZ	20	1	0	1	1	0	3	0	1	0	2	21	2
TULSA, OK	11	16	12	1	4	12	21	14	7	9	14	11	14
VENTURA, CA	12	70	87	54	43	63	66	62	45	29	22	15	23
WASHINGTON, DC-MD-VA-WV	40	25	48	14	52	20	29	18	29	47	39	42	39
WEST PALM BEACH-BOCA RATON, FL	6	0	0	0	3	0	0	0	0	2	1	7	1
WILMINGTON-NEWARK, DE-MD	9	9	12	12	29	24	27	13	21	24	21	10	21
YOUNGSTOWN-WARREN, OH	14	3	14	10	10	5	12	8	10	22	12	15	13

**Table A-18.** (Ozone only) Number of Days with AQI Values Greater Than 100 at Trend Sites, 1990–1999, and All Sites in 1999

Metropolitan Statistical Area	# of Trend Sites											Total	AQI # of > 100 Sites	1999
		1988	1989	1990	1993	1994	1995	1996	1997	1998	1999			
AKRON, OH	2	9	30	8	10	8	12	11	6	14	20	2	20	
ALBANY-SCHENECTADY-TROY, NY	3	4	9	5	5	6	3	4	3	2	6	3	6	
ALBUQUERQUE, NM	7	2	0	0	0	1	0	0	0	0	1	9	2	
ALLENTOWN-BETHLEHEM-EASTON, PA	2	10	14	3	6	3	9	6	13	18	20	3	23	
ATLANTA, GA	3	42	23	20	36	15	35	25	31	50	61	7	69	
AUSTIN-SAN MARCOS, TX	1	4	3	1	2	4	10	0	0	5	8	2	19	
BAKERSFIELD, CA	5	95	107	100	97	98	104	109	55	75	87	6	92	
BALTIMORE, MD	7	28	50	23	48	40	36	28	30	51	40	8	40	
BATON ROUGE, LA	3	28	11	5	5	7	15	7	8	14	17	7	26	
BERGEN-PASSAIC, NJ	1	8	11	2	3	5	11	3	5	0	0	1	0	
BIRMINGHAM, AL	6	28	5	12	10	6	32	15	8	23	27	6	27	
BOSTON, MA-NH	4	7	13	9	6	10	8	2	8	7	5	4	9	
BUFFALO-NIAGARA FALLS, NY	2	7	9	3	1	4	6	3	1	13	8	2	8	
CHARLESTON-NORTH CHARLESTON, SC	3	1	1	0	2	2	1	3	3	3	5	3	5	
CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	3	29	12	11	23	9	13	18	26	48	34	7	42	
CHICAGO, IL	17	3	22	4	3	7	21	6	9	7	12	22	12	
CINCINNATI, OH-KY-IN	6	12	19	1	6	16	19	10	11	14	12	7	27	
CLEVELAND-LORAIN-ELYRIA, OH	6	10	23	10	12	22	21	17	11	19	17	9	22	
COLUMBUS, OH	3	4	17	5	7	10	15	16	8	19	20	5	25	
DALLAS, TX	3	24	2	12	14	27	36	12	20	28	23	5	35	
DAYTON-SPRINGFIELD, OH	3	13	12	2	11	14	11	18	9	19	19	5	20	
DENVER, CO	6	4	0	4	0	0	0	0	0	5	0	8	3	
DETROIT, MI	8	11	28	7	5	11	12	12	12	17	14	8	14	
EL PASO, TX	4	6	1	3	3	7	7	2	1	6	1	4	1	
FORT LAUDERDALE, FL	3	1	0	2	4	1	1	1	0	1	1	3	1	
FORT WORTH-ARLINGTON, TX	2	16	20	7	9	31	28	14	14	17	19	2	19	
FRESNO, CA	5	56	81	69	59	55	61	70	75	67	81	7	83	
GARY, IN	2	2	8	5	0	6	17	11	11	9	10	4	12	
GRAND RAPIDS-MUSKEGON-HOLLAND, MI	4	10	26	6	3	12	17	7	8	13	20	4	21	
GREENSBORO—WINSTON-SALEM—HIGH POINT, NC	2	12	5	2	20	7	6	6	13	25	20	6	29	
GREENVILLE-SPARTANBURG-ANDERSON, SC	4	2	3	5	9	5	8	7	10	28	19	4	19	
HARRISBURG-LEBANON-CARLISLE, PA	3	10	21	1	15	12	13	3	9	22	17	3	17	
HARTFORD, CT	3	13	21	14	14	18	13	5	16	10	18	3	18	
HONOLULU, HI	1	0	0	0	0	0	0	0	0	0	0	1	0	
HOUSTON, TX	9	51	36	32	28	38	66	26	47	38	50	11	54	
INDIANAPOLIS, IN	6	9	11	6	9	22	19	13	12	19	21	9	26	
JACKSONVILLE, FL	2	3	0	2	3	2	1	1	4	10	3	2	3	
JERSEY CITY, NJ	1	15	25	9	19	12	16	5	9	7	17	1	17	
KANSAS CITY, MO-KS	6	2	11	1	3	10	22	9	18	15	5	6	5	
KNOXVILLE, TN	5	23	10	7	25	16	24	20	36	54	59	7	62	
LAS VEGAS, NV-AZ	3	2	0	1	2	2	0	2	0	0	0	4	0	
LITTLE ROCK-NORTH LITTLE ROCK, AR	2	1	3	0	2	2	7	1	1	2	6	2	6	
LOS ANGELES-LONG BEACH, CA	14	130	126	140	112	117	97	74	45	46	19	14	19	
LOUISVILLE, KY-IN	5	10	15	2	22	27	22	11	14	27	40	7	44	
MEMPHIS, TN-AR-MS	4	22	9	13	13	10	21	18	17	27	36	4	36	
MIAMI, FL	4	1	1	3	6	1	2	1	3	8	5	4	5	
MIDDLESEX-SOMERSET-HUNTERDON, NJ	1	24	24	8	13	9	16	8	18	21	23	2	26	
MILWAUKEE-WAUKESHA, WI	8	8	24	3	4	9	14	5	4	10	12	9	17	

**Table A-18.** (Ozone only) Number of Days with AQI Values Greater Than 100 at Trend Sites, 1990–1999, and All Sites in 1999 (continued)

Metropolitan Statistical Area	# of Trend Sites											Total # of Sites	AQI # of > 100 Sites
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	1999	1999
MINNEAPOLIS-ST. PAUL, MN-WI	4	1	0	1	0	0	3	0	0	1	0	5	0
MONMOUTH-OCEAN, NJ	2	21	20	11	24	13	20	17	21	31	27	2	27
NASHVILLE, TN	6	29	12	6	18	21	26	22	20	30	33	8	45
NASSAU-SUFFOLK, NY	2	20	25	7	17	15	10	8	12	11	18	2	18
NEW HAVEN-MERIDEN, CT	2	15	28	10	13	13	14	8	19	10	16	2	16
NEW ORLEANS, LA	6	6	2	5	6	8	20	8	7	7	18	6	18
NEW YORK, NY	5	33	47	10	19	21	18	15	23	17	24	8	27
NEWARK, NJ	2	22	32	10	13	12	20	12	13	23	21	2	21
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS, VA-NC	3	8	7	8	19	6	6	4	17	15	16	3	16
OAKLAND, CA	7	4	3	3	4	3	12	11	0	11	5	9	6
OKLAHOMA CITY, OK	4	4	4	2	2	5	13	2	4	7	6	4	6
OMAHA, NE-IA	3	1	0	0	0	0	0	0	0	0	2	3	2
ORANGE COUNTY, CA	4	38	35	35	25	15	8	9	3	6	1	4	1
ORLANDO, FL	3	4	1	4	4	3	1	1	4	11	4	4	4
PHILADELPHIA, PA-NJ	8	39	49	24	51	25	30	22	32	37	32	10	32
PHOENIX-MESA, AZ	8	7	7	11	16	7	19	17	10	17	12	18	27
PITTSBURGH, PA	8	11	20	8	13	19	24	11	20	39	23	12	26
PONCE, PR	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTLAND-VANCOUVER, OR-WA	4	8	3	6	0	1	2	6	0	3	0	4	0
PROVIDENCE-FALL RIVER-WARWICK, RI-MA	2	13	20	5	7	7	11	4	10	4	7	3	13
RALEIGH-DURHAM-CHAPEL HILL, NC	1	15	5	0	11	2	1	1	13	21	26	8	29
RICHMOND-PETERSBURG, VA	4	6	18	8	30	13	19	5	21	28	25	4	25
RIVERSIDE-SAN BERNARDINO, CA	15	153	152	172	167	148	119	116	102	94	93	18	97
ROCHESTER, NY	2	5	16	2	0	1	6	0	6	4	9	2	9
SACRAMENTO, CA	8	42	36	50	20	36	41	42	15	27	38	13	48
ST. LOUIS, MO-IL	16	23	32	15	9	31	34	20	14	23	29	16	29
SALT LAKE CITY-OGDEN, UT	2	5	3	0	2	4	4	6	1	12	2	7	5
SAN ANTONIO, TX	2	4	3	1	3	4	18	3	3	6	9	2	9
SAN DIEGO, CA	9	96	67	66	58	46	48	31	14	33	16	10	17
SAN FRANCISCO, CA	3	0	0	0	0	0	2	0	0	0	0	3	0
SAN JOSE, CA	4	4	5	3	4	2	10	7	0	5	2	6	4
SAN JUAN-BAYAMON, PR	0	0	0	0	0	0	0	0	0	0	0	1	0
SCRANTON-WILKES-BARRE-HAZLETON, PA	4	9	17	3	10	7	12	4	11	7	12	4	12
SEATTLE-BELLEVUE-EVERETT, WA	2	7	3	3	0	3	0	6	1	3	1	3	1
SPRINGFIELD, MA	4	13	15	12	13	12	9	4	10	7	10	4	10
SYRACUSE, NY	2	0	12	2	4	1	5	0	2	3	4	2	4
TACOMA, WA	1	4	0	2	0	2	0	1	0	4	0	2	0
TAMPA-ST. PETERSBURG-CLEARWATER, FL	7	6	1	2	1	3	2	3	4	11	9	7	9
TOLEDO, OH	3	3	6	2	7	9	9	11	4	5	4	3	9
TUSCON, AZ	5	1	0	1	1	0	3	0	1	0	1	6	1
TULSA, OK	3	16	12	1	4	12	21	14	7	9	14	3	14
VENTURA, CA	6	70	87	54	43	63	66	62	44	29	22	7	23
WASHINGTON, DC-MD-VA-WV	13	25	48	14	52	20	29	18	29	47	39	17	39
WEST PALM BEACH-BOCA RATON, FL	2	0	0	0	3	0	0	0	0	2	1	2	1
WILMINGTON-NEWARK, DE-MD	3	9	12	12	29	24	27	13	21	24	21	4	21
YOUNGSTOWN-WARREN, OH	3	3	14	10	10	5	12	8	10	22	12	3	12

**Table A-19.** Condensed Nonattainment Areas List(a)

State	Area Name(b)	Pollutant(c)					Population (x 1000) (d)						
		O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	NO <sub>2</sub>	O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	
1 AK Anchorage		.	1	.	1	.	.	222	.	170	.	222	
2 AK Fairbanks		.	1	.	.	.	.	30	.	.	.	30	
3 AK Juneau		.	.	.	1	.	.	.	.	12	.	12	
4 AL Birmingham		1	.	.	.	.	.	751	.	.	.	751	
5 AZ Ajo		.	.	1	1	.	.	.	6	6	.	6	
6 AZ Bullhead City		.	.	.	1	.	.	.	.	5	.	5	
7 AZ Douglas		.	.	1	1	.	.	.	13	13	.	13	
8 AZ Miami-Hayden		.	.	2	1	.	.	.	3	3	.	3	
9 AZ Morenci		.	.	1	.	.	.	.	8	.	.	8	
10 AZ Nogales		.	.	.	1	.	.	.	.	19	.	19	
11 AZ Paul Spur		.	.	.	1	.	.	.	.	1	.	1	
12 AZ Payson		.	.	.	1	.	.	.	.	8	.	8	
13 AZ Phoenix		1	1	.	1	.	.	2,092	2,006	.	2,122	.	2,122
14 AZ Rillito		.	.	.	1	.	.	.	.	0	.	0	
15 AZ San Manuel		.	.	1	.	.	.	.	5	.	.	5	
16 AZ Yuma		.	.	.	1	.	.	.	.	54	.	54	
17 CA Imperial Valley		.	.	.	1	.	.	.	.	92	.	92	
18 CA Los Angeles-South Coast Air Basin		1	1	.	1	.	.	13,000	13,000	.	13,000	.	13,000
19 CA Mono Basin (in Mono Co.)		.	.	.	1	.	.	.	.	0	.	0	
20 CA Owens Valley		.	.	.	1	.	.	.	.	18	.	18	
21 CA Sacramento Metro		1	.	.	1	.	.	1,639	.	1,041	.	1,639	
22 CA San Diego		1	.	.	.	.	.	2,498	.	.	.	2,498	
23 CA San Francisco-Oakland-San Jose		1	.	.	.	.	.	5,815	.	.	.	5,815	
24 CA San Joaquin Valley		1	.	.	1	.	.	2,742	.	2,742	.	2,742	
25 CA Santa Barbara-Santa Maria-Lompoc		1	.	.	.	.	.	370	.	.	.	370	
26 CA Searles Valley		.	.	.	1	.	.	.	.	30	.	30	
27 CA Southeast Desert Modified AQMA		1	.	.	2	.	.	384	.	349	.	384	
28 CA Ventura Co.		1	.	.	.	.	.	669	.	.	.	669	
29 CO Aspen		.	.	.	1	.	.	.	.	5	.	5	
30 CO Denver-Boulder		.	1	.	1	.	.	1,800	.	1,836	.	1,836	
31 CO Fort Collins		.	1	.	.	.	.	106	.	.	.	106	
32 CO Lamar		.	.	.	1	.	.	.	.	8	.	8	
33 CO Pagosa Springs		.	.	.	1	.	.	.	.	1	.	1	
34 CO Steamboat Springs		.	.	.	1	.	.	.	.	6	.	6	
35 CO Telluride		.	.	.	1	.	.	.	.	1	.	1	
36 CT Greater Connecticut		1	.	.	1	.	.	2,470	.	126	.	2,470	
37 DC-MD-VA Washington		1	.	.	.	.	.	3,923	.	.	.	3,923	
38 GA Atlanta		1	.	.	.	.	.	2,653	.	.	.	2,653	
39 GU Piti Power Plant		.	.	1	.	.	.	.	0	.	.	0	
40 GU Tanguisson Power Plant		.	.	1	.	.	.	.	0	.	.	0	
41 ID Bonner Co.(Sandpoint )		.	.	.	1	.	.	.	.	26	.	26	
42 ID Fort Hall I.R.		.	.	.	1	.	.	.	.	1	.	1	
43 ID Portneuf Valley		.	.	.	1	.	.	.	.	74	.	74	
44 ID Shoshone Co.		.	.	.	2	.	.	.	.	13	.	13	
45 IL-IN Chicago-Gary-Lake County		1	.	1	3	.	.	7,887	.	475	625	.	7,887
46 KY Boyd Co. (Ashland)		.	.	1	.	.	.	.	51	.	.	51	
47 KY-IN Louisville		1	.	.	.	.	.	834	.	.	.	834	
48 LA Baton Rouge		1	.	.	.	.	.	559	.	.	.	559	
49 MA Springfield (W. Mass)		1	.	.	.	.	.	812	.	.	.	812	
50 MD Baltimore		1	.	.	.	.	.	2,348	.	.	.	2,348	
51 MD Kent and Queen Anne Cos.		1	.	.	.	.	.	52	.	.	.	52	

**Table A-19.** Condensed Nonattainment Areas List(a) (continued)

State	Area Name(b)	Pollutant(c)					Population (x 1000) (d)						
		O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	NO <sub>2</sub>	O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	
52 MN	Minneapolis-St. Paul	.	.	.	1	.	.	.	.	.	272	.	272
53 MN	Olmsted Co. (Rochester)	.	.	1	.	.	.	.	.	71	.	.	71
54 MO	Dent	.	.	.	.	1	.	.	.	.	3	.	3
55 MO	Liberty-Arcadia	.	.	.	.	1	.	.	.	.	2	.	2
56 MO-IL	St. Louis	1	.	.	.	1	.	2,390	.	.	2	2,390	
57 MT	Butte	.	.	.	1	.	.	.	.	33	.	33	
58 MT	Columbia Falls	.	.	.	1	.	.	.	.	3	.	3	
59 MT	Kalispell	.	.	.	1	.	.	.	.	12	.	12	
60 MT	Lame Deer	.	.	.	1	.	.	.	.	1	.	1	
61 MT	Lewis & Clark (E. Helena)	.	.	1	.	1	.	.	2	.	2	2	
62 MT	Libby	.	.	.	1	.	.	.	.	3	.	3	
63 MT	Missoula	.	1	.	1	.	.	43	.	43	.	43	
64 MT	Polson	.	.	.	1	.	.	.	.	3	.	3	
65 MT	Ronan	.	.	.	1	.	.	.	.	2	.	2	
66 MT	Thompson Falls	.	.	.	1	.	.	.	.	1	.	1	
67 MT	Whitefish	.	.	.	1	.	.	.	.	3	.	3	
68 MT	Yellowstone Co. (Laurel)	.	.	1	.	.	.	.	5	.	.	5	
69 NE	Douglas Co. (Omaha)	.	.	.	.	1	.	.	.	.	1	.	1
70 NM	Anthony	.	.	.	1	.	.	.	2	.	2	.	2
71 NM	Grant Co.	.	.	1	.	.	.	.	28	.	.	28	
72 NM	Sunland Park	1	.	.	.	.	.	8	.	.	.	8	
73 NV	Central Steptoe Valley	.	.	1	.	.	.	.	2	.	.	2	
74 NV	Las Vegas	.	1	.	1	.	.	258	.	741	.	741	
75 NV	Reno	.	1	.	1	.	.	134	.	254	.	254	
76 NY-NJ-CT	New York-N. New Jersey-Long Island	1	1	.	1	.	.	17,943	12,338	.	1,488	.	17,943
77 OH	Cleveland-Akron-Lorain	.	.	1	1	.	.	.	.	1,412	1,412	.	1,412
78 OH	Jefferson Co. (Steubenville)	.	.	.	1	.	.	.	.	4	.	4	
79 OH	Lucas Co. (Toledo)	.	.	1	.	.	.	.	462	.	.	462	
80 OR	Grants Pass	.	1	.	1	.	.	.	17	.	17	.	17
81 OR	Klamath Falls	.	1	.	1	.	.	.	18	.	18	.	18
82 OR	LaGrande	.	.	.	1	.	.	.	.	12	.	12	
83 OR	Lakeview	.	.	.	1	.	.	.	.	3	.	3	
84 OR	Medford	.	1	.	1	.	.	.	62	.	63	.	63
85 OR	Oakridge	.	.	.	1	.	.	.	.	3	.	3	
86 OR	Springfield-Eugene	.	.	.	1	.	.	.	.	157	.	157	
87 PA	Lancaster	1	.	.	.	.	.	423	.	.	.	423	
88 PA	Pittsburgh-Beaver Valley	1	.	2	1	.	.	2,468	.	446	75	.	2,468
89 PA	Warren Co	.	.	2	.	.	.	.	22	.	.	22	
90 PA-DE-NJ-MD	Philadelphia-Wilmington-Trenton	1	.	.	.	.	.	6,010	.	.	.	6,010	
91 PA-NJ	Allentown-Bethlehem	.	.	1	.	.	.	.	91	.	.	91	
92 PR	Guayanabo Co.	.	.	.	1	.	.	.	.	85	.	85	
93 TN	Shelby Co. (Memphis)	.	.	.	.	1	.	.	.	.	826	826	
94 TX	Beaumont-Port Arthur	1	.	.	.	.	.	361	.	.	.	361	
95 TX	Dallas-Fort Worth	1	.	.	.	.	.	3,561	.	.	.	3,561	
96 TX	EI Paso	1	1	.	1	.	.	592	54	.	515	.	592
97 TX	Houston-Galveston-Brazoria	1	.	.	.	.	.	3,731	.	.	.	3,731	
98 UT	Ogden	.	1	.	1	.	.	.	63	.	63	.	63
99 UT	Salt Lake City	.	.	1	1	.	.	.	725	725	.	725	
100 UT	Tooele Co.	.	.	1	.	.	.	.	26	.	.	26	
101 UT	Utah Co. (Provo)	.	1	.	1	.	.	85	.	263	.	263	
102 WA	Olympia-Tumwater-Lacey	.	.	.	1	.	.	.	.	63	.	63	

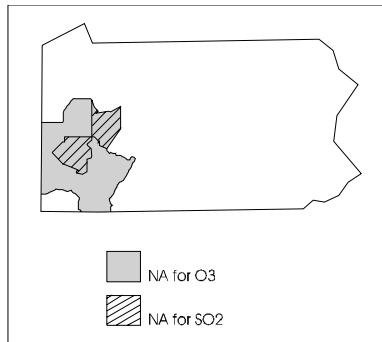
**Table A-19.** Condensed Nonattainment Areas List(a) (continued)

State	Area Name(b)	Pollutant(c)					Population (x 1000) (d)						
		O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	NO <sub>2</sub>	O <sub>3</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	Pb	All
103 WA	Seattle-Tacoma	.	.	.	3	.	.	.	.	.	730	.	730
104 WA	Spokane	.	1	.	1	.	.	.	279	.	177	.	279
105 WA	Wallula	.	.	.	1	.	.	.	.	.	47	.	47
106 WA	Yakima	.	.	.	1	.	.	.	.	.	54	.	54
107 WI	Manitowoc Co.	1	.	.	.	.	.	80	.	.	.	.	80
108 WI	Marathon Co. (Wausau)	.	.	1	.	.	.	.	.	115	.	.	115
109 WI	Milwaukee-Racine	1	.	.	.	.	.	1,735	.	.	.	.	1,735
110 WI	Oneida Co. (Rhinelander)	.	.	1	.	.	.	.	.	31	.	.	31
111 WV	Follansbee	.	.	.	1	.	.	.	.	.	3	.	3
112 WV	New Manchester Gr. (in Hancock Co)	.	.	1	.	.	.	.	.	10	.	.	10
113 WV	Wier.-Butler-Clay (in Hancock Co)	.	.	1	1	.	.	.	.	25	22	.	25
114 WY	Sheridan	.	.	.	1	.	.	.	.	.	13	.	13
		31	17	28	76	6	0	90,800	30,515	4,034	29,792	836	100,593

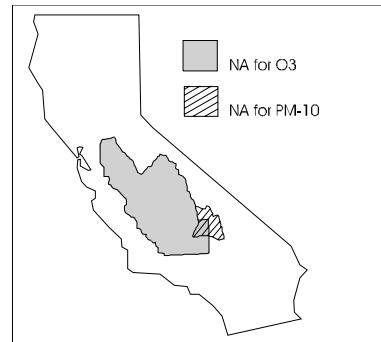
**Notes:**

- (a) This is a simplified listing of Classified Nonattainment areas. Unclassified and Section 185a nonattainment areas are not included. In certain cases, footnotes are used to clarify the areas involved. For example, the lead nonattainment area listed within the Dallas-Fort Worth ozone nonattainment area is in Frisco, Texas, which is not in Dallas county, but is within the designated boundaries of the ozone nonattainment area. Readers interested in more detailed information should use the official *Federal Register* citation (40 CFR 81).
- (b) Names of nonattainment areas are listed alphabetically within each state. The largest city determines which state is listed first in the case of multiple-city nonattainment areas. When a larger nonattainment area, such as ozone, contains 1 or more smaller nonattainment areas, such as PM<sub>10</sub> or lead, the common name for the larger nonattainment area is used. Note that several smaller nonattainment areas may be inside one larger nonattainment area, as is the case in Figure A-1. For the purpose of this table, these are considered one nonattainment area and are listed on one line. Occasionally, two nonattainment areas may only partially overlap, as in Figure A-2. These are counted as two distinct nonattainment areas and are listed on separate lines.
- (c) The number of nonattainment areas for each of the criteria pollutants is listed.
- (d) Population figures were obtained from 1990 census data. For nonattainment areas defined as only partial counties, population figures for just the nonattainment area were used when these were available. Otherwise, whole county population figures were used. When a larger nonattainment area encompasses a smaller one, double-counting the population in the "All" column is avoided by only counting the population of the larger nonattainment area.
- (e) Lead nonattainment area is a portion of Franklin township, Marion county, Indiana.
- (f) Sulfur dioxide nonattainment area is a portion of Boyd county.
- (g) Lead nonattainment area is Herculaneum, Missouri in Jefferson county.
- (h) Lead nonattainment area is a portion of Lewis and Clark county, Montana.
- (i) Ozone nonattainment area is a portion of Dona Ana county, New Mexico.
- (j) Lead nonattainment area is a portion of Shelby county, Tennessee.
- (k) Lead nonattainment area is Frisco, Texas, in Collin county.

**Figure A-1.** (Multiple NA areas within a larger NA area) Two SO<sub>2</sub> areas inside the Pittsburgh–Beaver Valley ozone NA. Counted as one NA area.



**Figure A-2.** (Overlapping NA areas) Searles Valley PM<sub>10</sub> NA partially overlaps the San Joaquin Valley ozone NA. Counted as two NA areas.



**Table A-20.** Trend in 8-hr ozone concentrations (ppm) exceedances at National Park and National Monument sites, 1990–1999

National Park	Trend	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Acadia NP	NS	0.089 4	0.095 7	0.080 1	0.080 3	0.075 0	0.092 5	0.073 2	0.077 1	0.088 4	0.092 5
Big Bend NP	UP	nd	0.057	0.061	0.063	0.069	0.065	0.073	0.063	0.070	0.064
		nd	0	0	0	0	0	0	0	0	0
Brigantine	NS	0.109 17	0.111 34	0.094 8	0.093 13	0.083 2	0.100 10	0.095 13	0.106 18	0.091 22	0.095 19
Cape Cod NS	NS	0.097 9	0.111 16	0.096 6	0.088 4	0.088 4	0.105 9	0.096 8	0.100 17	0.084 2	0.101 12
Cape Romain	UP	nd	0.060	0.072	0.069	0.067	0.075	0.071	0.082	0.076	0.080
		nd	0	0	0	0	1	1	3	0	2
Chiricahua NM	NS	0.069 0	0.071 0	0.065 0	0.068 0	0.071 0	0.059 0	0.072 0	0.065 0	0.067 0	0.072 0
Congaree Swamp	UP	nd	0.059	0.067	0.063	0.064	0.076	0.074	0.065	0.081	0.080
		nd	0	0	0	0	1	0	0	0	0
Cowpens NB	UP	0.074 0	0.078 1	0.086 4	0.082 3	0.083 2	0.084 3	0.080 2	0.091 6	0.096 15	0.094 7
Denali NP	UP	0.048 0	0.049 0	0.050 0	0.048 0	0.049 0	0.053 0	0.053 0	0.051 0	0.054 0	0.054 0
Everglades NP	NS	0.060 0	0.060 0	0.061 0	0.064 0	0.064 0	0.058 0	0.063 0	0.066 0	0.072 0	0.067 0
Glacier NP	NS	0.050 0	0.051 0	0.051 0	0.044 0	0.055 0	nd	0.057 0	0.04 0	0.053 0	0.048 0
Grand Canyon NP	NS	0.072 0	0.073 0	0.074 0	0.066 0	0.073 0	nd	0.073 0	0.072 0	0.072 0	0.076 0
Great Smoky Mtn	UP	0.092 5	0.079 2	0.088 5	0.088 4	0.093 10	0.099 11	0.088 8	0.098 19	0.110 35	0.106 25
Great Smoky Mtn	UP	0.087 4	0.082 1	0.075 0	0.089 7	0.088 6	0.093 12	0.092 12	0.095 20	0.106 34	0.101 26
Lassen Volcanic	NS	0.078 1	0.066 0	0.069 0	0.064 0	0.078 1	0.074 0	0.073 1	0.067 0	0.078 1	0.084 2
Mammoth Cave NP	NS	0.083 2	0.078 0	0.073 0	0.072 0	0.075 1	0.088 5	0.082 2	0.078 3	0.092 12	0.098 13
Olympic NP	NS	0.046 0	0.043 0	0.046 0	0.042 0	0.042 0	0.049 0	0.046 0	0.045 0	0.041 0	0.043 0
Pinnacles NM	NS	0.083 3	0.084 3	0.084 3	0.060 0	0.078 0	0.083 3	0.094 9	0.076 1	0.088 5	0.082 0
Rocky Mountain	UP	0.057 0	0.076 0	0.071 0	0.071 1	0.076 0	0.076 0	0.072 0	0.070 0	0.080 0	0.074 1
Saguaro NM	NS	0.075 0	0.073 0	0.074 1	0.082 1	0.080 0	0.083 2	0.076 0	0.079 0	0.077 0	0.069 1
Sequoia/Kings C	NS	0.096 27	0.097 34	0.102 50	0.106 48	0.106 58	0.095 18	0.105 50	0.097 26	0.094 27	0.097 23
Shenandoah NP	UP	0.086 4	0.083 3	0.077 1	0.083 2	0.083 2	0.087 7	0.081 1	0.089 6	0.107 22	0.093 15
Theodore Roosevelt	NS	0.062 0	0.060 0	0.057 0	0.055 0	0.057 0	0.058 0	0.059 0	0.071 0	0.056 0	0.058 0
Yosemite NP	NS	0.094 19	0.080 1	0.084 3	0.078 0	0.077 0	0.084 2	0.081 1	nd nd	nd nd	nd nd
Yellowstone	NS	0.054 0	0.057 0	0.063 0	0.053 0	0.061 0	0.060 0	0.061 0	0.061 0	0.066 0	0.077 0

**Notes:**

1. The trends statistic is the annual fourth highest daily maximum 8-hour ozone concentration (ppm). The number of exceedances of the level of the 8-hour ozone NAAQS is shown below the concentration value.
2. "nd" indicates no data available for that year.
3. "inc" indicates less than 90 days of monitoring data available for that year.
4. "NS" indicates no statistically significant trend (at the 0.05 level).
5. "UP" indicates a statistically significant upward trend in ozone concentrations.

**Table A-21.** Onroad and Nonroad Emissions of 21 Mobile Source Air Toxics, 1996

Compound	Onroad		Nonroad		Mobile Sources	
	Tons	Percent of Total National Emissions	Tons	Percent of Total National Emissions	Tons	Percent of Total National Emissions
1,3-Butadiene*	23,500	42%	9,900	18%	33,400	60%
Acetaldehyde*	28,700	29%	40,800	41%	69,500	70%
Acrolein*	5,000	16%	7,400	23%	12,400	39%
Arsenic Compounds*	0.25	0.06%	2.01	0.51%	2.26	0.57%
Benzene*	168,200	48%	98,700	28%	266,900	76%
Chromium Compounds*	14	1.2%	35	3%	49	4.2%
Dioxins/Furans* <sup>1</sup>	NA	NA	NA	NA	NA	NA
Ethylbenzene	80,800	47%	62,200	37%	143,000	84%
Formaldehyde*	83,000	24%	86,400	25%	169,400	49%
Lead Compounds*	19	0.8%	546	21.8%	565	22.6%
Manganese Compounds*	5.8	0.2%	35.5	1.3%	41.3	1.5%
Mercury Compounds*	0.2	0.1%	6.6	4.1%	6.8	4.2%
MTBE	65,100	47%	53,900	39%	119,000	86%
n-Hexane	63,300	26%	43,600	18%	106,600	44%
Naphthalene <sup>2</sup>	NA	NA	NA	NA	NA	NA
Nickel Compounds*	10.7	0.9%	92.8	7.6%	103.5	8.5%
POM (as sum of 7 PAH)*	42.0	4%	19.3	2%	61.3	6%
Styrene	16,300	33%	3,500	7%	19,800	40%
Toluene	549,900	51%	252,200	23%	802,100	74%
Xylene	311,000	43%	258,400	36%	569,400	79%
Diesel Particulate Matter	182,000	34%	341,000	65%	523,000	99%

\*On the urban HAPs list for the Integrated Urban Air Toxics Strategy

<sup>1</sup>Dioxin/Furans emission estimates are still under review

<sup>2</sup>Naphthalene emission estimates are currently included in POM. This will be corrected in the 1999 NTI.